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Edward Martin, M.D.

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## CONGENITAL IDIOPATHIC DILATATION OF THE COLON: "HIRSCHSPRUNG'S DISEASE"\*

By E. S. JUDD, M. D.

Junior Surgeon to St. Mary's Hospital

ROCHESTER

As early as the years 1820 and 1825, Billard and Parry, respectively, described instances of enormously dilated colons without apparent obstruction anywhere in the alimentary tract; but it was not until 1886 that Hirschsprung made his first report of the condition which in this country has been termed "*giant colon*."

The most marked feature of the disease is the great dilatation of the whole of the colon, and its peculiar characteristic, that no mechanical or specific cause for the condition can be found. According to a report of Finney (Surgery, Gynecology, and Obstetrics, July, 1908) and that of Mr. Harold Stiles, who reports five operated cases, nine different causes for the trouble have been advanced. Finney has given a most thorough review of the subject, and suggests lymphangiectasis as the chief etiological factor, because it appeared to him that the most striking feature in the case he had under observation, aside from the dilatation of the colon, was the enlargement of the lymph-glands and the dilatation of the lymph- and blood-vessels in the mesocolon.

Besides the condition lymphangiectasis the other causes suggested are an abnormally long mesocolon, chronic cholitis, increased length

of the colon, mechanical obstruction, congenital aplasia of the muscular tunics of the intestine, spastic contraction of the sphincter and anal fissures, neuromuscular defect, and valve-formation.

In all reported cases the dilatation is associated with a marked hypertrophy of each layer of the intestinal wall, and although there has been considerable discussion as to whether the dilatation or hypertrophy is primary, the majority are agreed that the factors are the same as in other regions under similar circumstances, and that the hypertrophy is secondary and an effort to compensate for the dilatation.

Clinically, the disease will be easily recognized if the patient is seen while the colon is distended, though if he were examined just after the bowels had been evacuated, the condition might be mistaken for a simple obstinate chronic constipation.

The principal complaint made by patients is their inability to move the bowels without the use of an enema, and general bowel distention. This forced distention is most marked in the left side of the pelvis in the region of the sigmoid, continuing upward to the splenic flexure and across to the right hypochondriac region, gradually fading away in the right side of the pelvis. The early histories show that these symptoms existed a few days after birth, and often, as in the case I

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

will report, the mother had never at any time been able to get the child's bowels to move without the use of an enema. It is characteristic of these cases that they will go for a month or six weeks, and even for three months, without having a passage from the bowels; then for a day or two there will be many large movements of very foul feces, to be followed again by weeks of constipation.

In many cases the deformity extends to the chest because of the pronounced abdominal

toscope usually reveals nothing except, possibly, ballooning of the rectal walls.

In practically all cases the large bowel, and especially the sigmoid, is the part involved, but at times the small bowel, stomach, and esophagus are involved in the dilatation. The dilatation begins gradually and reaches its maximum in several inches. On the contrary, it terminates abruptly, usually just at the beginning of the rectum. There is no evidence of mechanical obstruction. The bowel contains large quantities of gas and thin feces. The mucosa may show marked pigmentation and ulceration. The intestinal wall is greatly hypertrophied, and the mesocolon thickened,

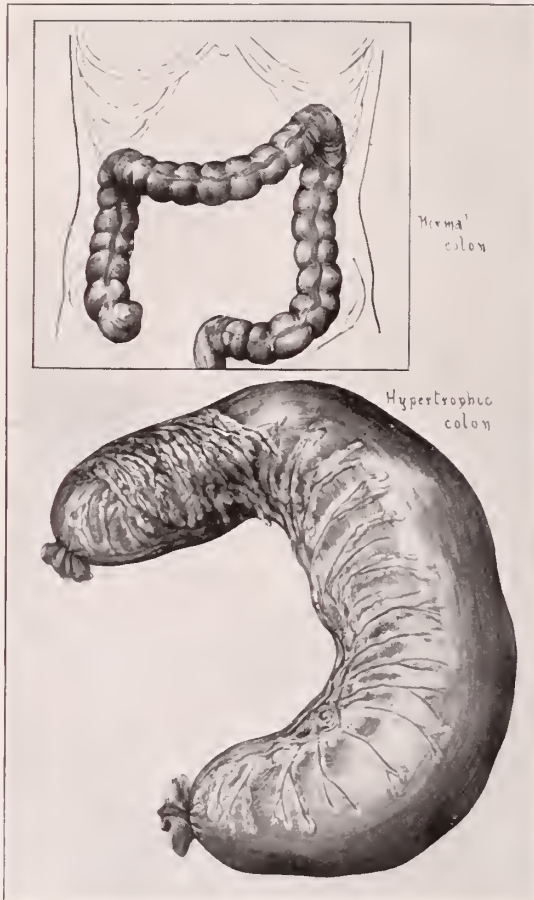


Fig. 1. Hypertrophic colon removed in the case of Mr. ——. Dimensions: 27 inches long, 6 to 9 inches in diameter. The normal colon drawn above, is to show the comparative size.

distention. This condition was not marked in the patient whose case I am reporting. Palpation and percussion of the abdomen reveal the intestine distended with gas and feces. The patient we refer to never had pain, except when there was unusual distention, and he had vomited but once, when there was complete obstruction to all feces and gas for four days. As a rule there is no pain or vomiting. Rectal examination with the finger or the proc-

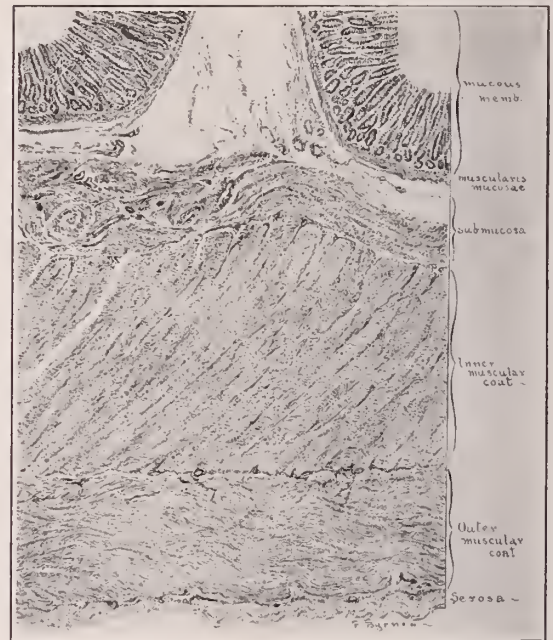


Fig. 2. Section through wall of hypertrophied colon, magnified 12 diameters.

although this latter condition was not especially noticeable in the case I am reporting. Microscopically, the wall in this case was a little less than two times its normal thickness. The increase was due more to the hypertrophied muscle than to the mucosa. The muscularis mucosae was greatly hypertrophied, especially its circular fibres; the submucosa was not greatly changed. The circular and longitudinal muscle-coats were very greatly thickened (more than twice their normal thickness), due entirely to a hypertrophy of the normal muscle fibres.

The specimen showed an unusual lack of pigmentation in the mucosa which Dr. Finney describes in his cases. There were no



signs of necrosis or ulceration; on the contrary, all coats excepting the mucosa were simply hypertrophied. The natural folding of the mucosa was completely gone, the surface being perfectly smooth grossly. Microscopically, this coat showed a regular and symmetrical arrangement of the glands, which were about normal in length. In the interglandular stroma were a few leucocytes and a very small amount of brown pigment. From a pathological as well as a clinical standpoint the lack of extensive inflammatory changes is marked. This disease is more common in boys than in girls, and it may exist for years, though some of the reported cases have lived but a few weeks.

The case in question is a boy 16 years of age, born in South Dakota, of German and Scotch descent. The family history is of no particular importance. The boy had chicken-pox, measles, and whooping-cough, but had been otherwise well, except for the trouble with his bowels. Soon after his birth it was discovered that nothing would pass his bowels without the aid of an enema. This condition remained for years, the patient taking large doses of laxatives of all descriptions without their having any effect. They caused no griping or discomfort of any kind. Between the age of ten and eleven, laxatives and enemas were discontinued, and during this time one and two months would elapse without his having a passage from the bowels, then for a day they would move almost constantly, there being as many as eighteen movements in twelve hours. At the end of his eleventh year there was a period of complete obstruction, when for four days not even gas was passed. Oil enemas finally started the gas, and after that he took an enema every day, keeping fairly comfortable on the days when the enema was successfully used. The boy is well developed and strong now, although this development did not begin until during his eleventh year, when he commenced the use of the enema each day. The chest examination was negative except for some spreading of the ribs and evidence of the diaphragm having been crowded up. The abdomen was found distended, especially in the left side of the pelvis. The colon could be easily outlined. Liver dullness was slightly diminished. There were peristaltic waves every few minutes. Rectal examination was negative.

The patient was operated upon July 22, 1908,

in St. Mary's Hospital, by Dr. W. J. Mayo. The greatly dilated colon almost filled the entire abdomen, the dilatation beginning at the hepatic flexure, increasing in size to the middle of the transverse and descending colon, reaching the point of maximum dilatation at the sigmoid, and terminating abruptly just at the beginning of the rectum. The distended part of the colon was at least eight inches in diameter, and the large portion on view with its tense, whitish covering and distended blood-vessels, looked not unlike an ovarian cyst. The mesentery was not greatly thickened. The bowel contained large quantities of gas and thin feces.

*Operation.*—Resection beginning at the hepatic flexure and extending to the rectum. The ends of the colon were turned in by purse-string linen sutures, and a lateral suture anastomosis was made between the ascending colon and the anterior surface of the rectum. The section removed was twenty-seven inches long and six inches in diameter *without forcible distention*. The wound was closed without drainage. On the third night after the operation the patient's bowels moved without the aid of a laxative or enema, and they have continued to move from one to four times each day since without using artificial means. He left the hospital August 4th and was discharged from our care August 22d, well. That this condition has continued to date has been confirmed by correspondence. He writes that he is eating well and feels all right.

#### DISCUSSION

DR. W. J. MAYO (Rochester): Hirschsprung's disease is most interesting because it shows the extreme of constipation, and, like ordinary constipation, its pathology is obscure. We have many theories as to the causation of the various grades of constipation, from those who would place all the blame on insufficient mastication of the food, to those who believe that the trouble lies in Houston's valves of the rectum, for the fact remains that neither at the time of the operation nor in the examination of the specimen afterward can it be shown just why this extreme dilatation of the colon should occur. It is altogether probable that all the various varieties of constipation depend upon an imperfect evolution. The sigmoid as a fecal container varies in size, shape and length, and, therefore, varies in function.

There are many reasons for believing that the sigmoid, which is the organ most largely concerned, is a recent evolution. All of those parts of the body which have a long heredity, such as the small intestine, do not vary to any such degree, so that the variations in individual sigmoids is an indication of its recent unstable origin.

From the foregut we get the tongue, the back wall



of the pharynx, the esophagus, the stomach, the duodenum to a point below the common duct, and also the liver and pancreas—all organs concerned in the digestion and preparation of food for absorption. From the midgut we get the lower half of the duodenum, the jejunum, the ileum, and the colon as far as the splenic flexure—all organs concerned in the absorption of food.

Ninety per cent of the solids and 65 per cent of the fluids are taken up in the small intestine. Ten per cent of the solids and 35 per cent of the fluids are absorbed in the large intestine, mostly in the cecum.

The hindgut gives rise to the descending colon, the sigmoid, and part of the rectum—all organs concerned in handling the food residue and those intestinal excretions that are to be eliminated. The descending colon has become merely a passageway into the sigmoid, and is usually found empty. The normal peristalsis of the derivatives of the hindgut is an anti-peristalsis, except during defecation. Salt solution, food enemas, etc., placed in the rectum are to a large extent carried backward above the splenic flexure for absorption. Mr. Bond has shown that solid particles placed in the rectum are rapidly carried upward by what he calls "reverse mucous currents." It can be easily seen therefore that the underlying causation of Hirschsprung's disease is not necessarily different from ordinary constipations, but is one which, for some reason, has become of extraordinary dimensions.

In these extreme conditions the giant colon has been treated in several different ways. By permanent colostomy, by short-circuiting the intestine above into the upper rectum, and by excision. Permanent colostomy for a benign condition is certainly very unfortunate. The stagnation of the feces in this giant tank cannot be conducive to good health, even though the obstruction itself is relieved; neither is a side-tracking operation ideal, as it does not furnish any adequate relief to the stagnant contents of the enlarged colon. I think, therefore, that excision is the best treatment, as it not only relieves the obstruction, but, once and for all time, it gets rid of the disease. (Applause.)

DR. HALDOR SNEYE (St. Paul): I have been asked to say something about chronic constipation. I have little to say about the surgical aspect of constipation, and I do hope that constipation will not now become a surgical disease, because I feel that physicians are largely responsible for this condition through their prescribing of laxatives upon every occasion, thereby inducing a laxative-habit. There are many cases that undoubtedly require surgical relief, but I hope those cases are not as common as we may think. In about seven hundred cases of chronic constipation that I have treated I have not yet found a case of dilatation of the colon which required any operation.

Hirschsprung's disease must be a very rare affection, and I am very glad to have heard Dr. Judd's paper.

DR. A. SCHWYZER (St. Paul): I did not come prepared to say anything on this subject. I was glad to hear Dr. Mayo say that these cases are extreme and not the general class of cases. There are cases where we can guess at Hirschsprung's disease, because we can make out in a little child, even a baby, a very large, distended sigmoid, and still these cases—I have seen but one outspoken case—need not all be handled by operation. The case I refer to was that of a little child 18 months old. The colon appeared to be very large and distended. With my finger I tried to make an ex-

amination through the rectum, but could find nothing. I went into it with the speculum. I do not know whether this did any good or not. I read lately in a leading German medical paper an article on Hirschsprung's disease where the author makes the special point that in a percentage of cases we have a definite reason for such severe colon-distension in infants, and that the cause lies at the upper junction of the rectum with the sigmoid, and that we have there a fold-formation. I would like to hear from the essayist what he thinks about this point.

We have a hypertrophy in the gut just the same as we have it above a stricture. A valve-formation on account of a kink struck me as something very plausible and a thing to work on, and I think we ought to remember this, whether we handle a case surgically or not. In my case we did not have such an enormous degree as the doctor has shown us. In going in with the finger and with the speculum I can hardly think we helped things any, but with the help of oil enema, and through the aid of an excellent masseuse, the child began to have regular bowel-movements. The mother then was instructed how to give daily massage and give an oil enema every five or seven days. It is 3½ years since I started this treatment, and the child is doing very well. It is six months since there was any enema given, and in the last six months the mother had to give massage only about six times in all, when there was a tendency to constipation. So, while extreme cases are certainly a field for surgery, in all minor cases, and perhaps cases up to quite a high degree, it is worth while to try conservative measures first and then through massage, sensible diet, and with proper (not large) oil enema we might have good results. (Applause.)

DR. E. S. JUDD (Essayist): This particular case was one of Hirschsprung's disease; that is, a marked dilatation of the colon, the dilatation beginning gradually but terminating abruptly at the beginning of the rectum. No definite cause could be established, as there was no difference in the histological structure of the colon at the termination of the dilatation, and no mechanical or other cause for the condition apparent. There was no kinking.

#### DIAGNOSTIC POINTS IN THE RECOGNITION OF PERFORATED GASTRIC AND DUODENAL ULCERS

Benjamin T. Tilton, of New York, says that if we can diagnose the exact location of an intestinal or stomach perforation before operation valuable time may be saved which would be occupied in seeking the seat of the lesion. In gastric or duodenal ulcer the history of the case as to previous gastric symptoms is valuable. The onset of symptoms is generally sudden, there being severe pain of a stabbing nature, with complete or partial collapse. The pain is generally in the epigastric region at first, before the peritonitis becomes diffused. Examination of the abdomen shows it to be retracted and the muscles very rigid. Tenderness of the abdomen on palpation is very marked in gastric perforation. Vomiting during the first twenty-four hours is rare. After the first symptoms there is a period of improvement before the beginning of the peritonitis.—*Medical Record*, December 19, 1908.

# MODERN OPERATION FOR THE CURE OF INGUINAL HERNIA\*

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In studying the pathologic anatomy of inguinal hernia, it makes quite a difference in the emphasis put upon certain factors, whether we study the anatomy from an intra-abdominal or extra-abdominal standpoint. We may consider the structural derangements of this anatomy in the nature of a strife on the part of the entire abdominal wall to preserve its integrity against the effort of the inward forces to destroy this integrity. Thus it makes a difference in our ideas of restorative operations whether we look at the anatomy from the inside, as a caged animal might look at the bars which were restraining it, or whether we look at it from the outside, from the standpoint of one who was trying to prevent escape from within.

In the first place, of course, clinically speaking, we always see our hernias from without. The danger, therefore, is probably that we shall put too little emphasis on the features which would be present could we see the anatomy from within. If we look at the abdominal wall in the inguinal region, the normal contour is marked by a certain directness and straightness of line. The line along Poupart's ligament, extending from the anterior-superior spine to the pubic region, is but slightly curved, moderately straight. The abdomen is dome-shaped, but not pocketed, not pouched. An abdomen that is in a pathological condition, and yet possibly has no hernia, presents a different contour. Even if there be no congenital sac, yet the abdomen of an individual with a predisposition to hernia is quite in contrast to the normal. Such an abdomen has not the smooth dome-form and the straight lines leading parallel to Poupart's ligament, but has a tendency to be slightly pouched or bulged below. The two inguinal regions are dilated or distended, thin-walled, to a certain extent. And such an abdomen, if looked at from a lateral position, shows also a pouched condition. A relaxed, middle-aged individual of the type often destined to acquire hernia late in life, will have below the umbilicus this bulging

and pendulous condition, due to the laxity and thinness of the musculo-aponeurotic structures, which give the wall a tendency to become almost lobulated, not cylindrically symmetrical or dome-like.

On the other hand, if we change our position and seek to get the standpoint of the caged animal inside seeking a way out, we shall be interested to note the emphasis placed on certain conditions not thought of before. Look for a moment at these photographs. At the age of four months a fetus, if looked at in transverse section at the level of the brim of the pelvis, shows the spinal canal and vertebræ, the rectum, etc., and the testes as intra-abdominal organs, with the epididymis lying at the opening, which will in the future be the inguinal canal, and is as yet not developed. A little later in development, at an eight months' period in fetal life, we see in this photograph a somewhat similar condition, further advanced. The vertebral column, the rectum, the umbilical arteries, with the urachus and umbilical cord above, may be seen. The testes, with their epididymis, have already begun their journey, have entered the vaginal process, and have started down the inguinal canal.

If, now, we follow this matter to a stage beyond the period of birth, a different condition appears, as shown in the next plate. The two testes have almost disappeared down into the inguinal canals. The cord and umbilical artery are plainly to be seen, showing the beginning of a twisted condition. An abdominal wall looked at from its inner aspect is not as smooth as even the normal abdomen is from its outer aspect. Looking downwards along the inner aspect toward the thigh and forwards toward the rectus muscle, we may see in transverse section (here photographed) the reflected peritoneum, and when it has been divided the iliac artery and a cord-like ridge formed, which presents itself on the peritoneal surface by the epigastric vessels. A line of vessels near the border of the rectus, running in a little further, forms a similar slight ridge. If the abdomen be looked at in any healthy individual without hernia, it is easy to demonstrate that on each side there are three fossæ, which have

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been somewhat aptly called the inner fossa, the middle fossa, and the outer fossa. It is these fossæ, the normal anatomical depressions, which form the starting-points and beginnings of hernias.

I show you a photograph taking the interior view and looking downwards from the abdominal cavity into the pelvis of a one-year-old child with congenital right inguinal oblique hernia. The vertebræ, the cut-off rectum here, and the arteries running up as before are clearly visible. Now, upon the left side the vaginal process is shown and the testis already descended into the normally closed scrotum. The epididymis, the vas deferens, the vessels, and the main artery of the cord entering the scrotum are shown; and you see that there is no room for protrusion. Upon the right side an open processus vaginalis has left a hernial pouch on the line of the peritoneum, causing a congenital oblique hernia.

Again taking the position of the outsider, looking at the hernia, and studying it over skin surfaces, certain well-known anatomical facts are apparent. Poupart's ligament, of course, extends from the anterior spine of the ilium downward toward the pubic region. Across the partially uncovered aponeurosis of the external oblique, the superficial epigastric runs near the skin in the pubic region, and the external abdominal ring is easily seen, as well as the cord passing across it and entering the scrotum.

Now, returning again to the proper order, we divide the musculo-aponeurotic wall, external oblique; then we see next the internal oblique and transversalis muscles, and have removed the roof or top of the inguinal canal. When thus reflected, the inguinal canal is seen to be bounded below by a sharpish edge, seen near this reflected flap called the shelf or edge of Poupart's ligament; above, by the internal oblique muscle, and through this the cord is observed to make its way, partly buried in muscle. If, now, that red muscle or internal oblique can, in addition to the skin and the external oblique, be also retracted, as we see here (indicating), there is still another layer of the abdominal wall. We have taken off, first, the skin; next, the external oblique aponeurosis; and, finally, the deep, thick, conjoined tendon, internal oblique, and transversalis muscle, which at that location are practically one muscle, and still have a posterior wall of some strength, the transversalis fascia, or lin-

ing membrane of the abdomen next to the peritoneum. Through that fascia the cord makes its opening at the orifice called the internal abdominal ring, and descends to complete its exit through the external ring. We have, therefore, made a dissection from the skin inward through to everything except the peritoneum.

The diagram I now show you illustrates the anatomy more clearly than the photograph just presented. Poupart's ligament, forming the lower border of a canal whose upper part is the arched muscle, is clearly shown. A division through this opening is formed by a vessel which runs next to the peritoneum, the deep epigastric artery, a branch of the femoral, running upward at right angles to the ligament upon the inner abdominal wall. French surgeons have laid considerable emphasis upon the different attachments of muscle to Poupart's ligament, both as to its origin on the outer side and its angle of insertion as it comes down to join the ligament below. The uncovered transversalis fascia which the fibers above fail to close against Poupart's ligament, has been very aptly called the "*point faible*"—(weak point). This area is called by English anatomists Hesselbach's point. Ferguson of Chicago some years ago laid down the dictum that persons who have congenital (or sometimes acquired) hernias are congenitally deficient in the distance of attachment of this muscle to its ligament. The normal, sound individual will have the red muscle attached to nearly the whole length of Poupart's ligament. The individual born with a hernia or a congenital weakness and destined later to acquire hernia will have perhaps one-third as much of this muscle attached, and a correspondingly large weak area, unsupported by muscle, in the space from the artery towards the pubic region. If we want accurately to estimate these differences in attachment, we may measure and illustrate graphically the average difference in angle and direction and position in a large series of hernias, and thus demonstrate the anatomical conditions congenitally predisposing a person to hernia.

Now, what are the steps in the modern radical cure of inguinal herniotomy? If you go through the clinics of the world you will find about nineteen Bassini operations done out of every twenty herniotomies you see. An account of Bassini's work was first published in 1889. He reported at that time some 260

successful herniotomies. From the time of publication of his paper, the Bassini operation was popularized and was used all over Europe and America, and is still used to a great extent. However, Bassini himself, in his first paper, gives credit to Macewen of Glasgow as a pioneer in certain steps in the radical, wide opening of the inguinal canal, placing of sutures, and extirpating of the sac. And Americans ought to be proud of the fact that Dr. Henry O. Marcy, of Cambridge, published some years before Bassini and read at an international medical meeting, an operation which in its principles is identical, and is, in many respects, an operation equally as good as that of Macewen or Bassini.

All modern herniotomists take certain steps in common. The variations between the operations which bear the name of different operators are in minor points. It would be easy to enumerate thirty, forty, or fifty operations described in the books under different operators' names, such as Barker, Ball, Nussbaum, Kocher, Halsted, Wood, Wutzer, Bassini, McEwen, O'Hara, and so on. A common feature of all is that they are open methods. When we speak of the open method for the radical cure of inguinal hernias, we mean that it lays open the whole length of the inguinal canal. In the earlier operations efforts were made to plug and block up this canal without opening the fascia, and in some cases without even opening the skin.

A convenient method of opening the canal is by making a preliminary incision with pinched-up flaps. A flap pinched up and divided by a stroke of the knife can be so held by the fingers that the little arteries which cross it can be picked up and held by hemostats before they spurt or bleed much: at any rate, the incision will be parallel to, and a couple of centimeters above, Poupart's ligament, and, beginning at the lower end, or external abdominal ring, two-thirds the length of Poupart's ligament.

Having made such an incision, and having tied our vessels and exposed the deep tissues, you will observe that the floor of the opening is made up of coarse tendinous white fibers. These are the parallel bundles of fibers of the external oblique aponeurosis, which end at the external abdominal ring, and are only transverse where they are crossed by the intercolumnar.

The next step, if we are going to do an open operation,—and this is true of all the methods I have spoken of,—is to lay open this canal. We have our choice of splitting it up on a director or of employing the method Bassini himself uses, of passing the point of a keen knife between the two bundles of fibers and rapidly splitting them from the internal to the external ring.

Still further common to all herniotomists is the one feature that the hernial sac or lining must be extirpated and removed radically, high up from the inguinal canal. Now, the hernial sac in an inguinal oblique hernia is always in one location: it is always on the inside of a tubular investment, in what is known as the *fascia propria* or *tunica propria*, a prolongation of the lining fascia of the abdomen, accompanied in a hernia by strings of red cremaster muscle. These muscular strings in hernias are very much hypertrophied, and have sometimes been thought useful in the repair. The hernial sac is in the interior in all oblique hernias, and to get the sac and its contents cleanly out, the first step should be the use of a keen knife, exactly as in dissecting a varicocele or a hydrocele. There you use a very careful method of sharp dissection down to a certain point. So, in the case of the cord and sac, we start the dissection of the sac by cutting to a certain plane. Having reached that plane, the sac, which is fairly seen, can be seized with the jaws of a forceps and held strongly, and the remaining part of the dissection is done, not with a keen knife, but by blunt dissection, using gauze wrapped on the finger or a gauze pad. The sac can be stripped rapidly to a point where it is free from everything except the opening from which it makes its exit out of the abdominal cavity. At that point it is to be removed, or it would perhaps be better to say that we prefer to follow those operators who remove it higher than the point of emergence from the abdomen. This we do by dissecting it loose inside the ring and drawing it down under tension.

Were one doing the operation of Professor Kocher of Berne the hernial sac would be removed low down, and its cut-off stump sharply flexed, transfixed, and sutured beneath the skin. We call attention to this to warn against it, and to state that our belief is, with Bassini and most other operators, that the sac should be extirpated well inside the



abdominal wall. With a blunt tractor or a finger it is easy to dissect the peritoneum from the abdominal wall all around the ring, and to draw it down, after which it is amputated. It is never amputated except with the lower end, or fundus, wide open. A herniotomy should never be done, however simple the case may appear or however thin and transparent the sac looks, without the sac being held open and the eye fixed on the interior at the moment of transfixing with the ligature. It is a somewhat important point what kind of ligature knot we use in removing the sac. A hernial sac, if very small, can easily and safely be tied off and its stump cut, without being transfixed, but a large-sized sac is safer transfixed. It is well to call attention to several different modifications of the knots to be employed.

If the transfixing point carrying the suture is carried through the sac, we have one of the simplest forms of securing it by passing one of the ends around through the loop and making Bancroft's suture. We may transfix the sac again by carrying the ends across the cord and tying. This is Tait's knot. Or we may cut the two ends of the loop apart, cross them so that they cannot separate, and tie them in the opposite directions. Simple things, but little points are of value.

We have said it is desirable to lift the peritoneum from the abdominal wall a half inch or so and pull it down into the canal before amputating the sac, for if you do not do so you will leave a funnel on the inner aspect of the abdominal wall. I show you a picture indicating the aspect of the inner lining of the peritoneum in all cases in which we do the Kocher operation or the O'Hara operation, or any operation in which we do not remove the sac high up.

I present, further, a diagram showing that the cord has been lifted out of the canal and the sac extirpated. The lower segment of the external oblique aponeurosis is lying inverted. The entire canal thereof is unroofed, like a tunnel with its top taken off; and not only that, but is only legitimate contents, the cord, is momentarily lifted out.

Up to the present point we have now said nothing that would differentiate one operator's technic from that of another. Of course, it is true that Macewen did treat the sac differently, by quilting it up into a pad and making a cushion of it; but in the majority of

modern operations the work up to this point is the same.

The problem that is presented from this time onward is so to close this opening through which the sac has made its way as to leave the cord room and to restore the anatomy to a condition as good as or better than that of the normal individual. If we are disposed to do that by one of the earlier methods, following the technic which to me has only an historical interest, because I derived from it part of the technic of my own method, we may use the closure method of Lucas-Championnière. He used a heavy catgut suture, which passed through the fascia across and through the red muscle and back, and was then tied through the fascia some distance from the edges. It compressed the parts very deeply either in front of or behind the spermatic cord and, to a certain extent, crumpled them together and doubled their thickness.

As contrasted with that we may show the technic of Bassini. Bassini is a man not very far along in years. He has a chair in a university at Padua, Italy, a delightful old, decayed university, which has but a handful of students. In the middle ages it had thousands. It has a fairly good small medical school. If you visit Padua, as many surgeons have done, you can see Professor Bassini do from one to three herniotomies every day as long as you may want to stay. And there is no clinic in the world where you can see herniotomy done as rapidly or with cleaner results. In his technic we have a different suture from that last described. The skin is opened; the cord is held up on the hook, as before; the flap of the external oblique is drawn apart; and the red, or internal oblique, muscle and the transversalis with it are sutured down to the sharp inner edge of Poupart's ligament. When the surgeon has placed from one to five stitches along in a row just behind the cord, he will have narrowed and reconstructed the internal ring, and he will then drop the cord back into position and will reunite the cut aponeuroses edge to edge.

I will now illustrate a modified Bassini operation. The average American surgeon who looks at this picture will say, "Halsted operation." This is taken from a European book and is a picture of the Post emski operation, an operation which, to all intents and purposes, is identical with the operation formerly advocated by Professor Halsted, of Johns Hop-



kins University. It is interesting to note that this early operator has sutured together all the layers of the abdominal wall with a stout row of stitches, and has done it behind the spermatic cord, and placed in an exposed position underneath the skin, which will then be united over it.

A modification now begins to appear in our work. All of us who are familiar with the Bassini operation will probably agree with me in saying that on small hernias it is easily and quickly done, and gives very satisfactory results. It is possible that in many instances small hernias would be equally well cured by an extirpation over the canal of the hernial sac and the use of no sutures, because muscle falls against muscle, the ring is small, the pressure of the dressings would hold them anyhow, and union would take place. Ochsner of Chicago has shown by a fairly large series of herniotomies on femoral hernias that the use of stitches to close the femoral canal adds little to the percentage of recoveries, but that a high extirpation of the sac of itself, without stitches, will effect a permanent cure. The opening in a femoral hernia is practically always a small opening. The opening in an inguinal hernia is all the way from a small, self-healing puncture to an opening in which one or two fingers or a fist can easily be thrust.

When one has performed a large number of Bassini operations he will begin to come upon cases in which the execution of the technic is difficult. If the rings are large, Poupart's ligament, on the one side, must be sutured against the rectus muscle on the other. In the large cases there is no muscular tissue left between Poupart's ligament below the internal ring and the rectus muscle. It becomes necessary to use the rectus muscle to help close the canal. If the ring be closed, it is necessary to suture the opposing structures, and then Poupart's ligament is dragged high up out of position, the rectus border is drawn down, and one becomes very skeptical of the value of that method in large inguinal hernias. To improve this defect in the technic, innumerable devices of a plastic sort have been employed. Woelfler has employed a trap-door flap, formed of the anterior rectus sheath, which he turned outward and sutured into the opening. A flap has been formed by a transverse section of the fascia lata turned upward and sutured. Sponge grafts, bone plugs, wire

filigree, and inverted skin have all been tried.

There is a constant effort when you have had a number of large hernias to find something to supplement the ordinary Bassini method. After a considerable experience in various makeshift methods, I employed something like fifteen years ago a plastic method which I will now describe. I showed you a moment ago a sketch of a Bassini operation, in which the suture was passed through Poupart's ligament and the red muscle, then brought back and tied. The object was to close the posterior wall. Now, a very simple method of getting a large, well-nourished flap, not taken out of its normal relation, not deprived of its circulation, not under great tension, is to introduce with the preceding material this upper segment of the external oblique and bring it down to Poupart's ligament, as you see, thus overlapping and doubling the thickness of the abdominal wall to the extent of the thickness of the lower flap. After having done that, the lower flap is turned smoothly up and overlaps the upper one by the distance from the corner to the edges of the ligament below. The difference in the technic is less important and less obvious in the small rings, but the larger the ring the more important and more valuable is the method. If this were a Bassini operation, the overlapping segment below here, which has been turned and sutured across to the other, would have been turned out and sutured to it, edge to edge. We have seen in not a few cases the Bassini operation fail because that edge-to-edge union gave way. If the tissues are overlapped, the broad flat surfaces are put in approximation; these surfaces can never come apart, especially if sutured down with the flap stitched as I described. The thickness of the abdomen has been doubled by the amount of overlapping, there being practically two layers, and we have converted the two-layer abdominal wall at the weak point over the canal to a three-layer abdominal wall, upon the supposition that our transplanted flap retains its vitality, and primary union takes place. The external abdominal ring in a large hernia will sometimes admit all three fingers or even the closed fist. It is exceedingly dilated. The Bassini operation, which puts the cut external ring together again, edge to edge, does not reduce that dilatation, does not narrow the external ring, and leaves the deep stitch unsupported. It must bear all the strain. In this operation

our idea is that this outer stitch takes about half the strain or pull off the deeper stitch, and thus makes primary union certain.

I would like, if possible, in a purely diagrammatic picture of the anatomy, to explain what we mean by imbrication. The operation which I have described is called the imbrication operation. The word *imbrication* means overlapping of layers, as tile or shingles overlap on a roof. If we imagine the abdominal wall cut vertically, we shall see, of course, that the edges of these muscles will be from within outward, transversely, first skin, then internal oblique, and finally the transversalis fascia, and further down we shall see the edge of Poupart's ligament inward in a sharp, knife-like edge, extending downward to form the fascia lata and upward to form the lower segment of external oblique. Now, this body, like a circle, is supposed to be the end view of the cut-off spermatic cord, so that we see the inguinal canal, if such a thing were possible, which it is not, as if we were looking into the end of a tube. This operation is practically Bassini's. He has placed this somewhat large stitch around through that muscle, back through the edge of Poupart's ligament, and up against it tight, thus repairing the canal or enlarging it behind the cord. Now, this is the way Bassini's stitch started will look when it has been tied. That red muscle has been brought down to Poupart's ligament; the cord is lying there in front of the repaired canal; the repaired point, external oblique, is reunited to the other edge of the cut; and thus the anatomy is theoretically and practically restored. Now, note that in our method we have brought down and attached to Poupart's ligament not only the red muscle and the internal oblique, but the outside or external oblique, and these when united will double the thickness behind the cord.

The minor steps of such an operation I can show, I think, fairly well by a somewhat coarse, large drawing, intentionally exaggerated to show the different steps. It is always easy to lift the cord out of the canal for the purposes of repairing the canal, either by passing under it a loop or by putting the cord into one of the retractors, which holds the skin aside, which is equally advantageous, or by the use of the retractor which I have advised, mainly because it helps in clinical teaching by making the work visible at a distance. This is an ordinary skin retractor, modified by the

insertion of a kind of hook, on which the cord can be held, and it being pivoted at its socket, the cord can be wigwagged, turned to the right or left, or back and forth, to facilitate the introduction of these stitches. These stitches are, as I practice the operation now, inserted in the following manner: Behind Poupart's ligament the needle is passed; it goes across and gets not only the red muscle, but the external oblique aponeurosis, and comes back and makes exit through and in front of Poupart's ligament. Small hernias require about two, and large ones about five, such stitches. When these stitches are tied, the cord can be lifted off the hook and dropped down upon them again. The crowns of these stitches are seen holding the deep layer behind the cord in a repaired condition. Notice that the hard, parchment-like layer has been introduced there at the point of greatest weakness, and that it is united strongly to Poupart's ligament before the cord is laid down upon it.

A good deal of interest attaches; however, to a certain modification of the Bassini and of this imbrication operation, and of all the open operations, in the direction of letting the cord alone. There are two or three reasons why certain cases are better managed without the step sometimes described as transplanting the cord. One of those reasons is that in doing operations upon the aged or in young children, or if there is any risk under local anesthetics, we avoid one step that is painful and we gain a little speed. Another reason is that anatomically some of these cases seem to have the cord passing through thick bundles of muscles, and it would seem as if we restored the anatomy better by sewing in front of the cord rather than behind it. A third and very practical reason for doing it in some cases, is that operations in which the Bassini or some other method has failed sometimes leave the cord so adherent that in trying to dissect it from its bed we greatly prolong the operation, lacerate veins, and get hematoma and slow healing. For these various reasons some operators have practiced of late letting the cord alone in all herniotomies, and stitching the muscle in front of and not suturing behind it, thereby pushing the cord gradually further and further backward. Now, as a matter of fact, I believe the other method restores the anatomy more correctly. Dr. Coley of New York, who op-



erates in the Children's Hospital, tells me that in the majority of cases he still puts stitches behind the cord, not relying entirely on pushing the cord back, while in a certain minority he does the anterior operation.

Used in either position, imbrication gives us the benefit of a strong, parchment-like layer, better than the rectus sheath and better than the fascia lata or of any foreign body. Its nutrition is not interfered with, and there is no tension. So much for the upper segment of external oblique. We shall still have this lower flap left untouched, apparently dangling and useless. What shall we do with it? We turn it gently up and suture it, as you see, in an overlapped position, thus getting a good flat row of stitches, and adding fifty per cent to the thickness of the abdominal wall.

Now, how shall we close the skin over such a wound? That, of course, is a minor thing. I would like to have you notice this stitch. The suture line is ridge-shaped; it looks as if made by two rows, a superficial and a deep. This is the stitch which Bassini himself puts into all his cases, using silk, which he puts in very deftly in three or four minutes, with that peculiar ridge-shaped effect which I cannot explain. The suture is made as follows: Thrust a trocar, pointed, or any kind of pointed needle through the flaps of skin. Wind the silk or thread twice around the point of the needle, draw the needle through, and there will be no back-slip. Every loop of the suture-line will hold fast. When the suture is in place, the whole thing is like a ridge. It is a very quick and easy stitch to put in. But in the last few years I have used little else than metal clips in all abdominal work, including hernias. The clips are put on in thirty seconds, while it would take much more time to put in the stitches. They are taken off on the third and fifth days, every other clip on the third, and the remaining on the fifth. They also pinch the skin in a ridge-shaped form, and in my own personal work have superseded almost everything else for skin work where there is no tension.

A very few remarks on some of the complications in large-sized hernias, namely, sliding hernias or hernias "*par glissement*." A hernia which includes the large intestine, on the one side the sigmoid and on the other side the cecum, is very interesting anatomically,

and may be a very dangerous thing clinically. This patient has a double hernia. Upon the one side it contains the sigmoid flexure, and upon the other side it contains the cecum. Now, this hernia, although it is incomplete and has not descended into the scrotum, is very large; the large size, however, is not the most dangerous thing about it. The sigmoid hernia is dangerous from the fact that the intestine in it is oftentimes not surrounded by peritoneum, the intestine not necessarily being invested by the sac. These are called by the French *sliding* hernias. The sigmoid flexure slides down, spreads out, of course, towards the front, and when you open it and come upon the bowel uncovered by peritoneum you may very easily cut straight into it, thinking you are opening the hernial sac; and not only is it theoretically dangerous, but it has actually happened many times. Not only may these large hernias contain the large intestine, with this dangerous complication, but they may contain also the urinary bladder. The urinary bladder, when it comes into an inguinal or femoral hernia, is nearly always devoid of peritoneum. It slides down into the canal at a point below the peritoneal reflection, and it has happened again and again that operators have opened the first sac they came to, as they do customarily in hernia, and only discovered after the urine escaped in quantities that they had opened the bladder. I now show you a large-sized hernia, so large that it buries the prepuce and contains both the cecum and the urinary bladder. The result of the radical cure in this case was perfect. This patient had a small femoral hernia, which is not cured. It is believed by some observers that the radical cure of a large inguinal hernia has a tendency to draw open the femoral ring and thus produce femoral hernia. The testes appear normal there, although the scrotum is a little elongated. The hernia contains the large intestine. The result of radical operation was satisfactory.

When patients present themselves with inguinal hernias of the congenital sort, young boys or men, they not infrequently are found to have congenital malformations in the way of retained testes in the groin. This is an example of a testicle in hernia, or a testicle complicated by a hernia seen in the canal, not

in the scrotum, where it belongs. The method of management of this complication is of peculiar interest. The testis is usually undeveloped. It usually occupies the inguinal canal, but it refuses under all manipulation, even after we open the parts freely, to descend. Bevan of Chicago has shown that two things are important in the cure of retained testes accompanying inguinal hernia. It has not been an uncommon practice, as recommended by Monod, to perform what is known as inguinal castration, to simplify matters in those cases of remaining testes, thus enabling us to close up firmly and tightly the inguinal canal. In nearly every case of cryptorchidism, however, there is found leading up into the abdominal cavity a tube of peritoneum, and if this tube or process be divided it will be found ordinarily that the atrophied, small, retained testis can be drawn down and put into the scrotum, though it is sometimes necessary to attach the testis by a suture through the bottom of the scrotum. Bevan has further found that the spermatic blood-vessels may safely be divided, and the testis thus be released and brought down.

If the urinary bladder is in a hernia, it is not uncommon for a secondary sac to be present. We have here the urinary bladder uncovered by peritoneum and present; and below the cord, and towards the median line, we have the true hernial sac invested by peritoneum on the outer side. We have here a

sigmoid hernia present and pushing down, covered with peritoneum. We have here the urinary bladder covered by peritoneum just below it. The interior of such a hernia as that, as shown by cadaveric dissection, is interesting. The bladder part of it, of course, is not covered by peritoneum and can be pushed back. The true peritoneum, if divided, shows a sac in front of the bowel, the bowel itself lying about half in the sac and about half-naked behind the sac. The omentum and the bowel have pushed down and crowded upon it.

Finally, I thought it might be of interest archeologically to some of you to learn that the ancients had a very thorough knowledge, not only of the clinical anatomy of hernias, inguinal and femoral, but of the use of the truss. This is a photograph of a statue found in Susa, which was executed long before the Christian era. It is now in the Cluny Museum in Paris, and represents a divinity who had, it is thought, something to do with the medical cult of priests. But at any rate it shows clearly a double inguinal truss, with two large pads held by springs. The truss looks not so very different from those worn at the present day. The two pads bear firmly on the canal. What is still more interesting, the god has also a double femoral hernia, the hernia showing below the pad when applied to the inguinal hernia. (Applause.)

## POST-OPERATIVE COMPLICATIONS\*

By ARCHER EDWARD WILCOX, M. D.

Surgeon to the Municipal and Asbury Hospitals and Clinical Instructor in Surgery, University of Minnesota.

MINNEAPOLIS

The prevention, recognition, and treatment of post-operative complications require more surgical skill and experience than the mechanical performance of many difficult operations.

Anyone who operates should appreciate that his responsibility ceases in degree only at the termination of a successful convalescence, and not at the time the patient regains consciousness from the anesthetic. We are all familiar with the remark that "the operation was a success, but the patient died," and yet an operative procedure can hardly be called a success, which is directly responsible for certain post-operative complica-

tions that might be prevented, or, when they occur, are not promptly recognized and properly treated in time to prevent a fatal termination. It is of the utmost importance that surgeons so manage and conduct their operations that predisposing causes of post-operative complications be avoided.

The management commences at the time the patient enters the hospital, and consists of the preparatory medical treatment, the actual operation, and the treatment of the post-operative period.

In regard to the preparatory treatment of patients, there cannot be any one set of rules which will answer for any great number of cases. Pa-

\*Read before the Minneapolis Medical Club, October 21, 1908.

tients that are nervous and easily excited, do better after a few days' rest in the hospital prior to operation, while others seem to become more nervous and exhausted, so that each case deserves special study and consideration. Upon admission there is no more reason for having a stereotyped rule for the administration of a certain cathartic or a certain kind of enema at a certain time prior to the operation, than for assuming that every patient operated upon for chronic appendicitis should get out of bed on a certain day; yet casual observation will show that a large number of patients within certain age limits, be they male or female, weak or strong, enemic or plethoric, robust or frail, are the recipients of the so-called "usual preparatory treatment" of the particular institution in which fate and their pocketbooks allow them to enter.

The foregoing remarks refer to conditions and circumstances that have such an important and predisposing effect on the convalescent period that I cannot refrain from repeating that, while the responsibility of the surgeon ceases only at the termination of a successful convalescence, it more surely commences with intelligent and explicit directions as to the preparatory treatment, after the individual study and careful observation of each case on which he proposes to operate.

The preparatory management in the operating-room is of great moment. From the time the anesthetic is started, not a moment should be lost in needless puttering. Prolonged anesthesia in the best of hands is responsible for a certain amount of shock, therefore it behooves the operator to be ready, and to see that the assistants and nurses are ready at the proper time to do their duty in an exact, systematic, and rapid manner, and not stop to discuss the next procedure, thereby allowing as much time as may be necessary for the actual operation. It is well that the surgeon note the temperature of the operating-room to see that the patient is not needlessly exposed.

By personal observation I have found that the temperatures of several operating-rooms during the last year varied from 65° to 84° F., while important operations were in progress. Exposing the peritoneal cavity to such a low temperature as indicated in the minimum of the above is certainly harmful and should be avoided. The surgeon is responsible, and if necessary the operation should be postponed until the temperature reaches a higher point.

The process of preparation of the patient while

under the anesthetic, that is getting him on the table in a suitable position, removing the clothing, washing the operative field, and applying the protective aseptic sheets—should be done quietly and quickly. Much valuable time is lost in doing this. By timing the preparatory treatment of patients in several hospitals I found that it required from a few minutes in some instances to as long a time as twenty-five minutes in others before the actual operation was commenced. Such a lack of appreciation of the effects of an anesthetic is inexcusable on the part of the surgeon. It adds to the predisposing causes of shock and saps just that much more reserve force from the patient, who may require all his strength to fight some unavoidable post-operative complication.

During the operation the protection of the patient is equally important. Large surfaces of the body should not be exposed, and it is the duty of the surgeon to satisfy himself that the operating-table is warm. I have made note of several instances where the patient's bare skin came in direct contact with the metal of the operating table, which felt cold to the hand. This chilling of the body is needless and harmful. Wet towels should be repeatedly supplanted by clean, dry ones, and all sloppy irrigation indulged in as little as possible.

To even mention a list of the possible post-operative complications would be beyond the scope of this paper, but I wish to speak of shock, hemorrhage, and sepsis.

Shock is not an infrequent and alarming effect of major operations. Its causes are prolonged anesthesia, loss of blood, enfeebled constitution, and prolonged exposure of the abdominal contents to the air. It will be at once appreciated that shock depends, to a great extent, upon the factors spoken of in the foregoing remarks, and its prevention depends upon—

First. Having the patient in the best possible physical condition prior to operation;

Second. Using the smallest amount of anesthetic;

Third. Rapidity of operative technic, delicacy of manipulation, complete hemostasis, avoidance of exposure, and sudden severe changes in temperature.

Recently I saw the most profound shock occur during an abdominal operation, due absolutely to a needless prolonged plastic procedure in the pelvis, at a time when the main object of the operation had been completed, and the patient had already been under the anesthetic for two



hours. Better curtail the amount of work than to persist in fancy details and produce severe constitutional depression.

If shock occurs during an operation, the treatment consists in doing as little further work as possible, and having the operation completed in all possible haste. Further irritation is to be avoided. Crile states that, "Physiological rest should be resorted to immediately, and the patient made comfortable. The foot of the bed should be raised. In more critical cases the extremities and the abdomen should be snugly banded, and saline solution given by the rectum, intravenously, or subcutaneously. If the foregoing seems unavailing, 15 minims of Adrenalin chloride (1-1000) may be added to 500 c. c. saline solution, which is administered subcutaneously, and in extreme urgency a continuous infusion of 1-20,000 Adrenalin solution at the rate of 2 c. c. per minute should be tried."

The manner of giving salt solution is largely a habit. In this locality there seems to be a preference for the subcutaneous method. Personally, I prefer the intravenous method. Its effects are quicker, and in a well-equipped operating-room it is nearly as easy to do after a little practice in locating and opening the vein.

If the shock is due to sudden severe secondary hemorrhage, the treatment is necessarily operative, the bleeding vessel must be found and ligated. The subcutaneous injection of camphorated oil is an excellent heart-stimulant in the presence of shock. I have used it in shock due to trauma and hemorrhage with excellent results. Twenty minims may be given every twenty minutes until reaction takes place. In milder cases of shock consequent upon prolonged operations the infusion into the bowel of salt solution is undoubtedly one of the most useful and satisfactory adjuvants that we have at our command. These methods, combined with the external application of heat, will usually relieve shock that is due to exposure and manipulation. Selberg, in an analysis of 100 deaths following laparotomies, found some anatomic cause for the fatality in every case, so that death from pure shock following operations must be rare; however, we must aim to prevent the predisposing causes of pure shock which add to the severity of depression that may follow hemorrhage, trauma, and sepsis.

The genesis of hemorrhage is the operation. All bleeding points must be checked as the field of operation is enlarged. This procedure lessens the amount of blood lost, keeps the field of

operation clear, and precludes the possibility of a vessel of moderate size that has become occluded by blood clot during the operation from bleeding subsequently and producing collapse which may be mistaken for, and attributed to, plain shock.

The differential diagnosis of the collapse which follows hemorrhage and the nerve depression due to shock, is often difficult. It is of the utmost importance, however, that these conditions be differentiated and prompt measures taken to relieve the cause.

Shock usually occurs directly after or during the operation. Asphyxia from the anesthetic may simulate shock, but it usually comes on suddenly with cyanosis; and upon removing the anesthetic, practicing artificial respiration, and giving inhalations of oxygen, the normal color returns to the lips and respirations are re-established. Shock is not very sudden in its occurrence: The face has a peculiar color (pallor), the lips are pale, the skin leaky, the pulse weak, rapid and almost imperceptible, and upon the applications referred to above the reaction is sluggish and slow to return, if it returns at all.

The collapse due to hemorrhage may occur at any time after the operation; in fact it may start at the time of the operation while the wound is being closed, and be unnoticed, the symptoms developing slowly or rapidly, depending upon the size of the vessel and the amount of bleeding.

At times there may be some capillary oozing after operations, and a certain amount of depression may occur which is attributed to pure shock. But there is every reason to believe that it is possible to have enough hemorrhage to cause this condition, clotting take place, and subsequent absorption occur. Undoubtedly, some cases of supposed pure shock are thus relieved.

Secondary hemorrhage may be sudden. A ligature has slipped from a vessel, a clot has been washed away, or septic processes have exposed a vessel of some moment.

The patient may cry out with pain and have a fear of impending death, or there may be only a certain amount of restlessness with increasing collapse. Sometimes the collapse is so rapid that the condition may resemble the results of embolism.

The usual train of symptoms are some pain, restlessness, pallor, rapid pulse, slowly or quickly becoming almost imperceptible, leaky skin, thirst, labored respirations, diminution of vision, vomiting, unconsciousness, and death. When these symptoms occur no time should be lost in advising operation. The guilty vessel should be ligated, clots removed, and measures taken to

restore the normal quantity of fluid in the circulatory system. Crile has stated that the last word has been said in regard to the treatment of severe primary hemorrhage and frank secondary bleeding, after the vessel has been ligated; that is, that the restoration of the fluid is to be best accomplished by direct transfusion. With his ingenious instrument and some practice I believe this to be true, providing the operator can procure a donor of healthy blood. In the absence of these factors I feel that no surgical procedure has given me more satisfaction, as regards results obtained, than that secured by the direct infusion of salt solution into the vein in cases suffering from the effects of hemorrhage. On the other hand, prevention is the key-note in hemorrhage as well as in shock. An ounce of prevention is worth a pound of salt.

In any case of oozing from a broad surface during an operation where the operator cannot feel absolutely sure that it will discontinue, it is far safer to pack with gauze extending from the oozing surface to the exterior. It is true, this interferes with the primary union of the wound in clean cases, but if bleeding occurs under these circumstances it comes to the surface first and is rarely alarming, at the same time it is under control. Subsequently, the gauze may be removed and the wound closed by a stitch which has been left in situ.

If hemorrhage predisposes to shock, it certainly predisposes to sepsis. Wherever we have a latent blood-clot there is danger of the healthy growth of the wily germ. I have seen two cases of extra-uterine clots that were mistaken for pelvic collections of pus and opened per vaginam and when their true nature was discovered an abdominal incision was done, and the results were the most distressing sepsis. Death occurred in one case. Usually there is no operation which affords quicker convalescence, if the condition is recognized in time, than the ligation of a bleeding vessel following extra-uterine hemorrhage, providing the procedure is absolutely aseptic.

There is no doubt that a number of germs are introduced into the operative field at every operation, even when done under the most rigid aseptic conditions. However, an individual in average health will destroy a certain amount of infection by processes the result of the chemical action of the blood. Upon the patient's resistance, his ability to produce opsonins, and his leucocytic fortitude depend the result of this lili-

putian invasion. But the surgeon must not depend upon the patient's ability to destroy germs; he must aim to prevent the predisposing causes of sepsis.

It is hardly necessary to remark that all operations should be carried out, not only under favorable circumstances, but under the most rigid, exact, aseptic and systematic surroundings. An operator who is well trained in aseptic details does not have to think of each move he makes during an operation; it becomes habitual, rhythmical, mechanical. This is nowhere so well illustrated as when one observes a surgeon in the dissecting-room. He unconsciously moves chairs and tables with his feet and elbows, and not once will he allow his hands to come into contact with objects outside the field of his investigations, except voluntarily.

It would seem in this day of asepsis that it would hardly be necessary to mention this subject, but recent observation shows that it bears repetition. I recently observed an interne, who was watching an operation, suddenly exclaim as pus welled out of an abscess cavity, "There it is," and with his unclean hands put an index finger into the wound, with the idea, I presume, of showing the operator the exact position of the discharge. True enough, this case was already infected, but the unconscious action was inexcusable, and showed a lack of regard for the prevention of predisposing causes of post-operative complications.

One cannot be too clean, and at the present time, when operations are so common, we should be even more particular. If the patient is to be cleansed before the operation, then those coming into contact with the operation should be clean. However, it is common in some localities for the operator to wear his street clothes into the operating-room. This I believe to be inexcusable, and where it is possible the surgeon will do well if he gives himself, as well as the patient, a bath before operating.

In conclusion, I would like to remark that there seems to be a tendency to overestimate the importance of the actual operation, and to overlook the importance of the ante-operative and post-operative treatment. The operation is nothing more than the application of mechanical therapeutics, and while often difficult and calling for every bit of mechanical ingenuity that the operator possesses, post-operative complications will be more uncommon if the details of preparations and the prevention of predisposing causes are studied and respected.

# A CONSIDERATION OF THE MORTALITY IN ONE THOUSAND OPERATIONS FOR GOITRE\*

By C. H. Mayo, A. M., M. D.

ROCHESTER

In conquering serious diseases by surgical means it is important that the operation itself should be as free from mortality as possible.

Once surgical technic and sound judgment render operating comparatively safe, serious procedures are chosen as operations of expediency, and the operative mortality becomes lower, the disability is reduced, and the permanency of cure is increased.

Goiter is still considered a rare disease in this country and "serious" only when operated upon.

The mortality from early operations was high for the number operated upon, as the operations were performed from great necessity after the delay of long and oft-changed medication.

Operations upon colloid, simple, or diffuse adenomata, as a rule, involve slight risk to life.

In our early surgical work in hyperthyroidism we considered results up to average which gave 25 per cent mortality. Better judgment and more careful preparatory preparation of the pa-

tient, or graduated operations, and the percentage of mortality has been reduced to 3 or 4 per cent.

In our series of cases we have 574 cases of simple, colloid, or diffuse adenomata including encapsulated goiter, treated by extirpation or enucleation, with 4 deaths; 18 malignant, with 1 death; 97 cases of hyperthyroidism treated by double ligation of the superior thyroid arteries and veins, with 1 death; and 15 cases with single ligation, and no deaths; 295 cases where more or less of the gland was removed, with 18 deaths, 7 of which were in the first 46 cases.

Ether anesthetic preceded by atropin 1-120, morphia 1-6. Twenty odd operations under cocaine local anesthesia.

Cancer and sarcoma are most serious conditions, although cure is possible in the early stages.

Goiter of long standing may become malignant; surgeons should, therefore, encourage early operations in sudden growths of stationary glands.

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\*Author's abstract of a paper read before the Southern Surgical Society, St. Louis, Dec. 16, 1908.

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## ILLEGAL ADVERTISING IN WISCONSIN

The last Wisconsin legislature passed the following statute, which is too clear to be mistaken and too dangerous to be disregarded:

An act to create Section 4590n of the Statutes, prohibiting advertising the treatment of venereal and sexual diseases.

The people of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

Section 1. There is added to the statutes a new section to read: Section 4590n. 1. Any person who shall advertise in any manner, either in his own name or under the name of another person, firm or pretended firm, association, corporation or pretended corporation, in any newspaper, pamphlet, circular or other written or printed paper, the treatment and curing of venereal diseases, the restoration of "lost manhood," or who shall advertise in any manner that he is a specialist in diseases of the sexual organs or diseases caused by sexual weakness,

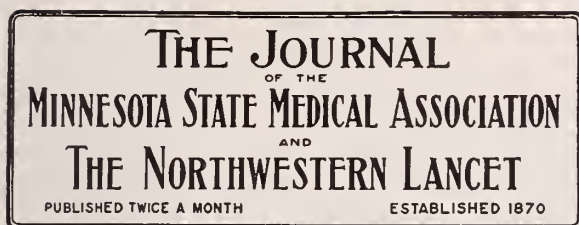
self-abuse or excessive sexual indulgence, or in any diseases of a like nature or produced by like causes, or who shall advertise in any manner any medicine, drug, compound or any means whatever whereby sexual and venereal diseases of men and women may be cured or relieved or abortion or miscarriage produced, and the owner, publisher or manager of any newspaper who shall publish any such advertisement, or permit or allow any such advertisement to be inserted and published in any newspaper owned or controlled by him or in which he has an interest, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five nor more than one hundred dollars.

Approved June 4, 1907.

Minnesota greatly needs such a law, and no reputable paper will oppose its passage, nor will any reputable legislator probably openly oppose it.

May we not hope to see such a law passed this winter by our legislature?





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JANUARY 1, 1909

## NEW YEAR'S GREETING

THE JOURNAL-LANCET extends a most hearty greeting to its faithful readers, and wishes them a new year of happiness, health, and prosperity.

The editor believes that THE JOURNAL has fulfilled its mission during the past year in presenting a high grade of reading matter, which has called out congratulations from its subscribers.

It is with pleasure that we record and remember the many complimentary comments that have been sent to us, by letter and by word of mouth, for the attempt to maintain a clean standard in medical publications. We appreciate our short-comings, and, with the assistance of our friendly critics, hope to improve upon each year's issue.

We offer no apology for the fact that THE JOURNAL is owned largely by physicians, and that it is the organ of the Minnesota State Medical Association and the South Dakota State Medical Association and the Minnesota State Board of Health. In representing these three medical bodies, THE JOURNAL is able to do a great deal of educational and medical missionary work that cannot be done by a journal owned by a county organization exclusively. Our scope is broader: we reach a larger number of readers and bring into closer communion a greater combination of medical men. We plan

for even a greater field of medical advancement during the year 1909. If our expectations are realized we hope to publish papers that will appeal to men who are looking for the opening of medical topics that will attract the attention of scientific investigators.

THE JOURNAL-LANCET does not aim to print an unnecessary amount of reading matter, but to give what is of special interest to its readers.

We cannot cover the entire field of medicine, nor do we want to. A journal that is newsy and contains a few articles on live topics, is the one that is most eagerly read. We cannot carry as much medical advertising as formerly for the reason that the publication committee, the editor, and the publisher do not believe it is for the best interests of the paper. Such as we do carry is of an unobjectionable kind, and no advertisement in our pages can be said to be of the harmful or nostrum type. In this we differ from many journals.

Our warmest thanks are due to the men who have stood by us and encouraged our efforts. Of the many writers who have been represented in the columns of THE JOURNAL for the past year, not one has been disagreeable or unkind during their correspondence periods.

The correction, revision, and re-editing of proof has always resulted in a closer bond of sympathy between the writer and the managers of THE JOURNAL.

In all modesty we can say that we have endeavored to prepare and publish articles that will stand the scrutiny of the most exacting critic, both from a literary and a typographical point of view.

To our friends: May our friendship continue.

To our critics: We will do better.

To our enemies: We will make you our friends.

To all: A Happy New Year!

## DR. J. N. McCORMACK'S LECTURES IN THE TWIN CITIES

The week beginning January 10th will be a week of general medical and lay interests for Minnesota and will be a busy week for Dr. J. N. McCormack, of Bowling Green, Ky., the lecturer of the American Medical Association.

The first lecture will be before the Ramsey County Medical Society, Monday evening, January 11th; the second lecture will be at a public meeting on the night of January 12th. Both of these meetings will be in St. Paul. On Wednes-

day evening, January 13th, Dr. McCormack will address the Hennepin County Medical Society in the Unitarian Church, and on Thursday evening, January 14th, he will address the public at a meeting under the auspices of the Woman's Club at the same place.

On Friday evening, January 15th, Dr. McCormack will address a meeting of the Southwestern Medical Society.

Dr. McCormack's popular meetings have been attended with a great deal of enthusiasm wherever he has spoken. The medical men who have heard Dr. McCormack know of his work and will be glad to have an opportunity to hear him again.

His talks are educational in every way, and he paves the way for a better understanding between doctors and the public.

He should be heard by large audiences at every meeting and physicians all over the state are urged to attend and to ask their friends to be present at the public meetings. It would be a great event if Dr. McCormack could address the legislature and explain to them the attitude of the medical profession toward the public. It would make legislative needs more clear and would do much toward securing appropriations that are needed for the benefit of the public health.

Dr. McCormack has done much to educate the people toward the suppression of quackery and nostrums and the elimination of spurious medical advertising in the newspapers. He is a great educator, a forceful speaker, and a wholesome medical missionary.

## THE JUGGLING OF VITAL STATISTICS

In the September, 1908, Quarterly Publications of the American Statistical Association there is a scathing review of the annual report of the Department of Health of the City of Minneapolis for the year ending December 31, 1907. This review of the statistics need not necessarily apply to Minneapolis alone, but is equally applicable to the other large cities in the state, and simply emphasizes the carelessness with which statistics are published throughout the entire state. The Commissioner of Health of the City of Minneapolis states that "the total number of deaths for the year was 2,959,—135 more than were recorded during 1906. Deducting babies under one week of age, violent deaths, and deaths of non-residents who are brought into our hospitals for treatment, computed on an estimated population of 300,000, the

death-rate per thousand is 8.56. This makes Minneapolis the healthiest city in the United States, as no other city of its size can show so low a death-rate."

The reviewer first asks why the estimated population of Minneapolis was limited to 300,000, when the Census Office at Washington gives the city credit for only 285,676, or 14,324 less than the above guess of 300,000. He suggests that it be just as easy to make the population 350,000 as 300,000 while you are guessing and thus make the city appear to be healthier. He questions also the elimination of children under one week of age, and ventures to suggest that they strike out the death of children under two weeks, or, better, four weeks, of age. "This would obviously make the city appear to be considerably more healthy." "If the health of a city is to be determined by statistical juggling, then the more slow and tedious sanitary processes used in some of the less healthy cities of the United States could be discarded. Why, for instance, attempt to improve milk or water supply, rigidly inspect food supplies, clean streets, etc., when an easier method yields quicker results?"

The reviewer also objects to the deduction of deaths from violence from the grand total, such as sunstroke and other sudden deaths which are due to local conditions; and deaths from old age or heart-failure, both of which may have been due to some unsanitary state, which in a measure would reflect upon the department of health in the cities.

Non-residents who die outside of the city and who are brought back for interment, or non-residents in Minneapolis hospitals should be included in all statistical records.

The result of all this carelessness or negligence in the vital statistics of a city is to discredit the statements as to the population and the alleged death-rate. The New York reports give an uncorrected list of deaths. In this way a fair comparison with other cities can be made and a true statement of vital statistics recorded.

The effort of the Minnesota State Board of Health to arrive at some positive conclusions with which vital statistics are concerned is a tedious and long-drawn-out process, and it is almost impossible to get satisfactory results from either the small or the large cities.

The United States Census for 1900 gives the death-rate for the entire country as 16.3 per thousand population and 15.4 per thousand population in the "Registration States." It is



safe, therefore, to assume that even in Minnesota the death-rate is not as low as St. Paul, Minneapolis, and Duluth attempt to show; and if we are ever to have a true record of what should be properly conclusive under vital statistics, some other method must be put in force or regulations adopted by law.

Minnesota is not among the "Registration States" according to the last United States Census report of 1900. This makes our supposed low death-rate rather humiliating. If the legislature could only see the necessity of keeping more accurate records of deaths and births, it would probably appropriate more than the meagre \$1,500 now allotted to the State Board of Health for that purpose.

Note.—The above was in type for our issue of Nov. 1st, but has been crowded out until now.

### THE STANDARDIZATION OF DRUGS

One or two suggestive articles appeared in the October, 1907, number of the *Folia Therapeutica* to which the attention of the reader has been called:

First, to the indiscriminate use of drugs and the multiplication or unnecessary combinations of drugs in which it was impossible to determine whether any of the drugs prescribed had the desired effect.

Second, that in a majority of instances, drugs, particularly those which are used as cardiac tonics, are not uniform or standardized.

This brings up the subject, first, of the proper and careful examination of the individual, in order to get a reasonably accurate diagnosis in each case. This should be the first effort of the physician before any drug is considered, and yet it is the common practice for physicians to casually examine patients and to recklessly and thoughtlessly prescribe a remedy for a condition or disease which exists largely in the imagination of the physician.

A good many busy practitioners hesitate about taking the time to make a careful investigation of their patient, but they usually have time to write one or more prescriptions.

If the physician understands the individual and the situation in general, he may with propriety prescribe almost anything that comes into his mind, and the relief to the patient is much the same as if he had made a careful investigation and thoughtfully prescribed a remedy.

In some of our well-known health resorts, and particularly at the celebrated Hot Springs located at various parts of the country, the physician makes his living off the visiting tourist, and it

is surprising to note the number of remedies that are given in the majority of cases. Patients return to their homes not infrequently with six or seven prescriptions, some of which contain from five to ten different ingredients—the whole mass making what is commonly known as a "Shot gun" prescription. The doctor hopes that some remedy will strike home. It is sad to add that this practice is not limited to health resorts but exists all over the country, not only among irregulars but many regulars. The results are sometimes a betterment of the conditions, but not infrequently the patient is made worse by indiscriminate prescribing.

The experienced and thoughtful practitioner who finally settles down with a few drugs at his command is, on the whole, the most successful. He does not permit himself to become a therapeutic nihilist, but he has learned by experience to be conservative and cautious in the use of remedies. He prescribes various known medicinal forms of treatment: exercise, massage, baths, change of occupation both mental and physical, change of environment and surroundings if possible, and then if nature needs assistance, he prescribes a medicinal remedy, and, if he is thoroughly conservative, his remedies are always compatible and do not clash when they get into the gastro-intestinal tract. He also keeps in mind the fact that plants differ in their growth year after year and that they, of necessity, vary in their development and in their clinical activities; that if plants are carelessly grown and unguarded during their period of greatest activity, they may produce alkaloids inert or of varying intensity. Consequently, the effort to standardize the few drugs which make up his armamentarium must be done, with the greatest possible care.

No one would think of employing an anti-toxine which had not been standardized, and as the principle of standardization is fully recognized in our own pharmacopeia in the case of opium, nux vomica, belladonna, and other drugs, it is fair to presume that the crop of cardiac tonics should be as carefully prepared and as thoroughly standardized as any drug in the market. The chemical houses are beginning to recognize this fact and are making more vigorous efforts to produce a pure, unvarying line of standard drugs.

Presumably, every physician has had some trying experience in the administration of cardiac tonics, and because of the inertness of many of the preparations which he formerly used, he

assumes that all other preparations belong to the same class, but when he once uses a drug of standard quality, he may be surprised and astonished at the apparent toxic effect which a pure drug produces. It is well, therefore, to be extremely careful in the use of new preparations and to ascertain the physiological experiments which have been carried out by the manufacturing chemist to ascertain the power of the drug which he has put upon the market. Digitalis, *strophanthus*, and squills are powerful agents and should be used with great care, and it is safe to assume that the reliable chemical house will give definite information and instructions as to the use of all of its standardized preparations.

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## REPORTS OF SOCIETIES

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### KANDIYOHI-SWIFT SOCIETY

The Society met at New London on Dec. 9, with nine members present.

Dr. G. A. Newman, of New London, read a paper on "Remnants of Medical Folk-lore;" and Dr. J. R. Petersen, of Willmar, read one on "Squint and Its Treatment."

A resolution was adopted favoring a national department of public health.

Dr. George E. Peterson, of Murdock, was elected a member.

The Society was banqueted by the Secretary at the Great Northern Hotel, when a general good time was had.

G. A. NEWMAN, M. D., Secretary.

### MINNESOTA VALLEY SOCIETY

The Society held its twenty-ninth annual meeting on Dec. 8 at Mankato. The attendance was good, many coming from out of town.

President Dodge read a paper on "The Mortality in Pneumonia During the Last Ninety-two Years;" Dr. T. C. Kelly, of Mankato, read one on "Diphtheria;" Dr. E. S. Judd read one on "The Treatment of Cancer on the Head, Face and Neck;" Dr. Fred Leavitt read one on "Some Obstetrical Observations, Based Chiefly on Fifty Recent Confinement Cases," and Dr. Arthur J. Gillette gave a paper entitled "A Clinical Report of Ten Years' Experience in the State Hospital for Indigent Cripples and Deformed Children."

### WATERTOWN (S. D.) DISTRICT SOCIETY

The annual meeting of the Society was held at Watertown on Dec. 11.

Papers were read by Dr. L. G. Hill, of Watertown, on "Common Diseases of the Eye;" by Dr. W. H. Sherwood, of Doland, on "Acute Nephritis," and by Dr. J. B. Vaughn, of Castlewood, on "Medical Ethics."

The following were elected officers: President, Dr. W. H. Sherwood, Doland; vice-president, Dr. S. B. Dickinson, Watertown; secretary-treasurer, Dr. J. B. Vaughn, Castlewood.

The subject of a monthly meeting to be conducted as a school for post-graduate work received favorable consideration, and will be given a trial.

A ten-course banquet was given at the Grand Hotel, followed by an entertainment which was heartily enjoyed.

### GRAND FORKS (N. D.) DISTRICT SOCIETY

The December meeting of the Society was held at Grand Forks on Dec. 9.

Papers were read by Dr. J. D. Taylor on "Gastro-enterostomy," and by Dr. R. D. Campbell on "Fracture of the Long Bones, and Its Treatment."

A luncheon and smoker followed the reading of the papers.

### THE MITCHELL (S. D.) DISTRICT SOCIETY

The annual meeting of the Society was held Dec. 9 at Mitchell, and was attended by physicians from Mitchell, Sioux City and Yankton.

Officers for the current year were elected as follows: President, Dr. E. N. Wagar, Bijou Hills; vice-president, Dr. Bert Menser, Bridgewater; secretary, Dr. W. R. Ball, Mitchell; treasurer, Dr. B. A. Bobb, Mitchell.

Several papers were read, and a delightful banquet was enjoyed by all.

### SIoux FALLS (S. D.) DISTRICT SOCIETY

The society met at Sioux Falls on Dec. 14.

The retiring president, Dr. C. A. Butler, Dell Rapids, gave an address, and the officers for the current year were elected as follows: President, Dr. T. J. Billion, Sioux Falls; vice-president, Dr. E. Klaveness, Sioux Falls; secretary-treasurer, Dr. D. W. Craig, Sioux Falls.

## NEWS ITEMS

### IT'S WORTH WHILE

Special attention is called to the announcement made in our editorial columns of the coming of Dr. McCormack, whose addresses are so delightful, as well as profitable, to hear. It is worth while to make a special and even expensive effort to hear him.

Dr. Josephine Tofte has moved from Ruthton to Grasston.

Dr. Geo. C. Gilbert has moved from Cass Lake to Bovey.

Dr. B. S. Allison has moved from Vivian, S. D., to Philip, S. D.

Dr. F. M. Rose, of Faribault, is spending the winter at Gooding, Idaho.

Dr. G. E. McCann, of Anoka, has located at Nevis, a new town near Walker.

Dr. George R. Pease, of Redwood Falls, has been attending clinics at Chicago.

Dr. F. E. Harrington has moved from Wattertown, S. D., to Sioux Falls, S. D.

Dr. N. A. Nelson, of Dawson, will retire from practice and go into business in St. Paul.

Dr. F. W. Schutz, of Waltham, will move to Eveleth, to do hospital work exclusively.

Dr. George C. Cutts was married last month to Miss Jessie Kohn, both of Minneapolis.

Dr. O. N. Bestrup, of Souris, N. D., has returned from an extended trip to Europe for medical work.

Dr. J. C. Litzenberg, of Minneapolis, has gone to Europe for special study, and will be absent several months.

The Pasteur Institute at the State University has treated 270 cases of rabies since its opening in August, 1907.

Dr. Benjamin Frankson, of Rugby, N. D., was married last month to Miss Mary Sausser, of the same place.

Worthington is to have a new hospital building which will cost \$10,000 and will accommodate thirty patients.

Dr. Lillian G. Miller, who is a leading physician of Billings, Mont., has been appointed county coroner at that place.

Dr. P. C. Donovan, of Neche, N. D., has moved to Winnipeg and become associated with Dr. A. V. Brown, of that city.

Dr. F. B. Strauss, of Richardton, N. D., has bought the Grand Hotel of that place and will remodel it for a hospital building.

Dr. E. I. Ertel, of Ellendale, was married last month to Miss Martha Spiegel, of Kewanee, Ill. Dr. Ertel recently located at Ellendale.

Dr. Adolph Kuncke, a recent graduate of the State University, who has been practicing at Sandstone, died on Dec. 15 at the age of 27.

North Dakota has two or three very important trials on hand for criminal abortions, the defendants being medical men in rather good standing.

Dr. Carroll Carson, of Proctor, has returned to his former home in Pennsylvania on account of an illness pronounced incurable by Philadelphia consultants.

The handsome new home for nurses, built by the state on the grounds of the Rochester State Hospital, at a cost of \$63,000, will be ready for occupancy next month.

Dr. Ernest Sasse, of Lidgerwood, N. D., has returned from a seven months' trip to Europe. He spent four months in London, and one each in Paris, Berlin and Vienna.

John Till, of Almena, Wis., has been sued for \$250,000 damages by a Milwaukee fireman who claims that blood-poisoning was caused by Till's plaster-treatment and resulted very disastrously.

Dr. Ray Humison, of Worthington, is remodeling a building to be used for hospital purposes. It will accommodate twenty-five or thirty patients, and will be a thoroughly modern hospital in all its equipments.

The Supreme Court of Minnesota has decided that a physician or surgeon may not practice dentistry without a dentist's license. It seems singular that a lawyer could be found to carry such a case to the Supreme Court.

Dr. N. J. Nessa, of Brewster, has sold his practice to Dr. C. D. Richmond, of Alpa. Both doctors are graduates of the State University, and of the same class. Dr. Nessa will do post-graduate work in Chicago for several months.

The Minnesota College of Physiological Therapeutics has been incorporated, and will give, according to its articles of incorporation,



special attention to "electro-photo, thermo, hydro, mechanic, manual, vibratory and suggesting magnetic therapeutics." It will be located in Minneapolis.

The business men of Northfield are establishing a district nursing association, whose object will be to furnish competent nurses to families unable to employ the high-priced trained nurse. The object of such an organization is worthy of all commendation.

The new Northwestern Hospital, of Moorhead, was dedicated last month. The building is very handsome, and the hospital is a great credit to the men who founded it and to the city of Moorhead. Dr. E. W. Humphrey, the chief-of-staff, is a graduate of the State University, class of '02.

The county society of Stutsman County, N. D., held its annual meeting last month at Jamestown and elected the following officers: President, Dr. A. W. Guest; vice-president, Dr. W. A. Gerrish; secretary-treasurer, Dr. Miller. Dr. Sifton read a paper on "Diagnosis by Inspection," and the society had a banquet at the Gladstone.

A few weeks ago Dr. Le Grand Denslow, formerly of St. Paul, now of New York, announced to the world, with the usual flourish of trumpets, that he had discovered a cure for locomotor ataxia. We know of one victim who has gone to New York from Minnesota to give up \$500 or \$1,000, only to return and heap abuse upon physicians.

The mother of Dr. F. E. Walker, of Hot Springs, S. D., has signified her intention to found a hospital at Hot Springs, although she is a resident of Iowa, for crippled and deformed children under 12 years of age. She will give a sufficient sum to erect the buildings and maintain them. Dr. Walker will devote his services gratuitously to the work. No more beautiful beneficence was ever conceived.

Dr. J. W. Robertson, of Litchfield, has moved into his new hospital, upon which he has been at work for many years that he might have a model hospital in all respects, and not the smallest problem to be solved was that of the kitchen and its service. In order to employ high-priced help, steady employment must be guaranteed, and to do this there must be profitable work. A restaurant for business men in connection with the hospital kitchen solved this problem in a business-like way, and this required that the

hospital be located in the business district. It is a big problem happily solved. Dr. Robertson has two sons in the State University, and they will soon be ready to take up his work.

#### PART OF OFFICE OFFERED

A regular physician in Minneapolis desires to share his furnished reception-room with a dentist or physician. For particulars, address L. E., care of this office.

#### LOCATION OFFERED

Two locations in Minnesota, near together and each capable of paying \$4,000 a year, are open, without charge, to two Scandinavian physicians who possess the requisite qualifications and can give satisfactory credentials. The physician making this offer simply wants to fill a good place he is leaving to do hospital work exclusively. Young men are preferred. Address H. B., care of this office.

#### AUTOMOBILE AND MICROSCOPE FOR SALE

A 1908 Mitchell runabout; practically new; top and glass front; 10-inch Rushmore headlights and side and tail lights; gas tank; storage battery; French horn; 1 extra tire and other extras. Cost, \$1,365; will sell for \$1,050. Guaranteed in fine condition. Also a new Bausch & Lomb microscope triple nose-piece; iris diaphragm; one-sixth and two-thirds inch objectives; one-half, three-fourths, and two inch eye-pieces; at a bargain. Address Dr. Schefcik, 501 Masonic Temple, Minneapolis.

#### PRACTICE FOR SALE

I desire to sell or lease, unopposed location in Minnesota; good rich territory; Germans, Scandinavians and Americans; three hours' ride to Twin Cities; town of about 400, centrally located; an ideal place for any doctor who can attend to general practice; English spoken generally; good graded school and churches. A doctor, young or old, who can also buy drug-store and stock, (\$3,000 deal, cash and time), can make money. Satisfactory reasons for selling. If you want such, address R. N., care of this office.

#### PRACTICE FOR SALE

\$3,600 will buy general practice in good live S. D. town; splendid field; nearest doctor 40 miles in one direction, 15 and 10 on other sides; one other doctor in town, kind of competitor you want. Fees the highest: \$1 a mile and obstetric cases \$15 to \$25. Collections 95 per cent. or better. Population German and Scandinavian. Will turn over practice to successor who will buy my residence (\$1,500) and office (\$350) located next door to drug-store. Unusual opportunity for live man. Act at once, and don't answer if you can't buy residence. Reason for selling: Going in with surgeon in city. Address, J. W., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Doctor*—If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-Graduate Medical Dept., Tulane University of Louisiana.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

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## Medical Education and Medical Educators in Minnesota

BY THE EDITOR—DR. W. A. JONES

The present issue of THE JOURNAL-LANCET is given over entirely to the proceedings of "An Evening on the History of Medical Education in Minnesota" at the University Chapel, Dec. 8, 1908.

This is the first time that any attempt has been made to preserve for future reference a complete account of the early efforts in medical education in this state. The perusal of the papers and speeches will amply repay the reader and will justify their publication in the State Medical Journal.

The masterly and scholarly address of Dr. Richard Olding Beard, our distinguished Professor of Physiology, shows the enormous and painstaking research necessary in the preparation of his subject. This address will serve as a valuable and lasting memorial of the early educators in medicine in Minnesota, who gave freely of their valuable time to instruct students in medicine.

The history of the work of the pioneers in medicine, some of whom are dead and others of whom still live and continue to teach, shows the utter unselfishness of medical men, who work without remuneration and whose aim and object in life is the betterment of the public health. Comparisons between the early and the present methods in the teaching of medical students show a difference so great that it is almost pathetic, yet when we measure the different standards, then and now, in vogue, we must award the congratulatory prizes to the sturdy men in medicine who made it possible for the student of today

to acquire his education under the most favorable auspices. The men, dead and living, who made medical history in Minnesota are among our most honored physicians and citizens.

Of laymen, there were a few who should be remembered, who gave money when financial disaster crowded the medical teacher beyond his ability to pay. Many of the medical men who inaugurated the teaching of medicine in Minnesota gave liberally of their funds, and yet they refer to their losses in the most modest manner. Such is always the attitude of the good physician, and no manner of criticism or sneering comment by the unworthy or incompetent will change the reverence and respect for those who made sacrifices of time and of money when the state was in its formative medical period.

The future of medical education in Minnesota was outlined in a conservative paper by the present Dean of the College of Medicine and Surgery, Dr. F. F. Wesbrook. His predictions will doubtless be verified.

The Regents of the University were present on this memorable historical night and learned much of what had been accomplished, and they now view the medical department in the light of this day of advancement and have promised to it their active support.

The several surviving deans of the University and of former private colleges gave an interesting account of their struggles with their several schools.

Drs. Alexander J. Stone, F. A. Dunsmoor and J. T. Moore, pioneer deans, early realized

the necessities of medical education in Minnesota. To Dr. Moore much credit is due for his efforts in paving the way for a strong medical-practice act. Dr. Dunsmoor devoted an amount of energy and money that would have bankrupted, physically and financially, a less far-seeing man. Dr. Stone deserves the distinction of initiating organized medical education in the state and of personally sustaining it through its entire history.

To Dr. Perry H. Millard, an indomitable and ardent worker, who died after seeing success

crown his efforts, too much praise cannot be given. He was an example of a devotion that leads a tireless worker to an early grave. He had his enemies, but the monument erected to his work endures. It has overshadowed every criticism, and he will always live in the memory of the men who knew him.

The amalgamation of the medical departments of the University and Hamline has been accepted by both Universities in the fine fraternal spirit that is characteristic of broad-minded men.

## THE UNIFICATION OF MEDICAL TEACHING IN THE STATE OF MINNESOTA: AN HISTORICAL EVENING

GIVEN IN THE CHAPEL OF THE UNIVERSITY OF MINNESOTA, DECEMBER 8, 1908

REMARKS BY DR. NORTHROP

Dr. Cyrus Northrop, President of the University of Minnesota, occupied the chair, and, in introducing the exercises, said:

Ladies and Gentlemen: The history of the rise and progress of medical education in the State of Minnesota is exceedingly interesting. I have known enough about it and have followed its course for a sufficiently long time to be certain of that. But even my memory does not go back to the beginning. There are gentlemen here this evening who have been connected with this history of medical education in Minnesota from the beginning and who are still engaged in the work of teaching medical students. They will give you tonight some of their experiences in the earlier days.

The main address of the evening will be devoted to the history of the rise and progress of this educational work in the state.

I feel that I may, with great propriety, offer my congratulations, tonight, to these men of the will give you the history of medical education in the State of Minnesota.

earlier times who began this work, as well as to the men who came in later times and joined them. They have all labored together in the work of promoting medical education, and I do most heartily congratulate them that their efforts have been crowned with such success and that, by their long and devoted labor, they have evolved an institution that is not only a credit to the University and a credit to the state, but, as I firmly believe, is an institution that compares favorably with any medical college within the limits of the United States.

Without detaining you longer, I have very great pleasure in introducing to you Dr. Richard Olding Beard, Professor of Physiology, who

### The History of Medical Education in the State of Minnesota

BY RICHARD OLDING BEARD, M. D.

Professor of Physiology, University of Minnesota

The history of medical education in the State of Minnesota does not differ, in its general features, from that of other and neighboring states. Indeed, at one time or another, it has been substantially the history of medical education in America, during the past century and a half; only that in the states of later birth and recent development, each stage in that history has been briefer and the march of events has moved with ever quickening pace.

Minnesota, from the forties to the seventies of the last century, was doing what New York and Massachusetts had been doing in medical

teaching for a hundred years before; but, in some measure, New York and Massachusetts were doing it still; while, within another decade, that phase in medical education had wholly passed away.

This history in Minnesota, as elsewhere, has been the product of social conditions and has a sociologic as well as a medical interest, because, at each stage of its progress, it is a reflection of the social environment which shaped its form and of the civic development which determined its course.

It has, indeed, its measure of local color,



DR.  
CHARLES N.  
HEWITT



DR.  
DANIEL W  
HAND



DR.  
PERRY H.  
MILLARD



DR. FRANKLIN STAPLES



DR. WILLIAM H. LEONARD

THE FIRST FACULTY OF MEDICINE  
UNIVERSITY OF MINNESOTA



and many of its details have a personal or communal interest which may serve to enliven the tale and to stir the appreciation of those of its participants who are present. Among the most notable of the makers of this history stand the names of a number of men who have "gone over to the great majority," but whose spirit is not absent from among us whose fortunes have been furthered and whose minds have been "made better for their presence."

In spontaneity of spirit and in rapidity of movement the rise of medical education in the State of Minnesota is characteristic of the type of development which has marked the history of the entire Northwest.

Three distinct phases in the history of medical education are to be noted, each of them having its motive in the condition of the times in which it has had its setting, each responsive to the immediate demands of its own day. One could wish for a kaleidoscopic pen to prove this principle of adjustment in the succession of causes and results.

#### THE PERIOD OF THE PRECEPTOR

The first of these historical phases is that of the era of the preceptor in medical education, a direct product of the pioneer period—a type distinctive of the day of communal isolation.

The preceptor, as the medium of medical education, was the necessary agent of his times in the perpetuation of the professional species. He was an answer to purely local needs—the needs of a remotely segregated social circle. He was born of the day of great distances, of difficult communication; a day of self-dependence, of small competition and of personal power; a day of limited opportunity, but of large social influence within a very restricted sphere.

The sharp localism of his community conferred upon the physician of that pioneer period a strong sense of personality, and lifted him to a place of recognized authority. Standing frequently alone in his calling, in his narrow but exclusive field of practice, he was a thing apart amid the mass of his people.

His dictum was usually unchallenged, by pupils and patients alike; for professional opinion, undisputed, becomes, in the popular mind, readily oracular. An intimate of his exclusive clientele, his professionalism was, nevertheless, pronounced, and, in family and village councils alike, he stands framed as a picturesque and, often, a pre-eminent figure of his times.

In such an environment and in such a social

itself to the realm of intellectual personality and undoubtedly inspired the preceptor to become relation the instinct of self-perpetuation extends the direct parent of his professional offspring.

Like the lonely Elijah, he must provide himself with an Elisha upon whom his mantle and his mission might fall. And since very occasionally could his successor be sent, either across seas or across continent, to the ancient seats of learning, he, himself, must be the teacher of his own trade. And he was often a teacher of no mean power and the parent of no mean following.

Fees he seldom exacted from his pupil, who served as his servant, his assistant and his apothecary. He issued no circulars of announcement; his curriculum was crude; his courses of instruction were pursued on foot, or on horseback, or on wheels, as opportunity offered; his laboratory, lecture room, pharmacy, study and office were in one; but, nevertheless, he belonged to the makers of medical history, to the school of the prophets, to the forerunners of a new social order.

Few, very few, among us are there who can go back to that pioneer period in actual experience. It has gone into past history, and only pen pictures of the old preceptor in medical education remain. But, looking back, we realize that the professional "soul, which rises in us,—our life's star," had, in *his* life, its earlier setting and "cometh" to us "from afar."

#### THE PERIOD OF THE PRIVATE MEDICAL COLLEGE

The second phase of medical education presents itself in the day of the private school of medicine, the essential product of the strenuous period of immigration, the period of railway introduction and extension; of popular movement; of the opening up and occupation of large, unused areas of the country; of the growth of large towns and great cities, of new and mixed communities, of rapid increase in population;—the day of competition in trade, of large demands for medical service, of rapid multiplication in the professions, of development in medical education, and, alas! also of commercialism in medicine.

He who would fitly appreciate the history of this period in medical education,—a period of amazing growth, of transitional forms, of temporary expedients, of immature civilization,—in the new Northwest, must realize the inter-relationships and the inter-action of all of the

new and complex social and political conditions which gave it birth.

Wherever and whenever, in the development of the country, large centers of population have been formed, affording new opportunities of professional fellowship, introducing an element of competition into professional practice, as well as into business life, requiring the presence of larger numbers of physicians in near neighborhood to each other, the inevitable and cultural tendency to association or organization has appeared, and the educational spirit has been born. The social replaces very largely the individual interest, and men begin to see visions and dream dreams of the possibilities of concerted influence and organized direction of the spirit of their times and the interests of their class.

The more rapid and urgent is the growth of the section which these social and commercial changes involve,—the more active is the demand for increased professional service,—the more readily has the response been given in the development of medical college education.

It was shown in the East, as early as 1765, when the Philadelphia Medical College, the first medical institution in the United States, which, in 1872, became the medical department of the University of Pennsylvania, was organized; in 1767, in New York, when Kings' College, and again, in 1792, when Queens' College were created, both merged in after years into the University of Syracuse; in 1782, again, when the Harvard Medical College was founded; in 1792, also, with the establishment of the New York College of Physicians and Surgeons, the department of medicine of Columbia University; in 1797, with the appearance of Dartmouth Medical College; in 1807, with the beginning of the medical teaching in the University of Maryland; in 1813, with its initiation at Yale; in 1817, with the formation of the medical department of Transylvania University, later the University of Louisville; in 1829, with the birth of the Medical College of Georgia; and in 1843, with the organization of Rush Medical College, still bearing its old name, but now conducted as the department of medicine of the University of Chicago.

The dawn of this new era in medical education is forelighted, for us of Minnesota, by this little circular, which announces that under date of 1871, "in accordance with resolutions, adopted in 1854, by the American Medical Association, cordially approving of the establishment of pri-

vate schools to meet the increased desire, on the part of a respectable number of medical students, for a higher grade of professional education than can be acquired by 'reading medicine,' under the direction of a 'single instructor,' the 'Board of Instructors' has organized 'The St. Paul Medical School, Preparatory,' for Medical Instruction."

The father of those resolutions, which rang the knell of the passing of the preceptor in medicine and announced the birth of the new day of the private medical college, was that old Nestor of medical college education in America, the late Dr. Nathan S. Davis, a Gamaliel of his profession, at whose feet it was my personal privilege to sit.

Since 1849 he had been teaching medicine, and, in 1864, he and his associates had founded his own school, now the Northwestern University Department of Medicine.

To his own simple testimony to his marvelous devotion to medical teaching, I listened, in 1882, when he apologized to his class for his first absence from the lecture-room in thirty-three years, an absence provoked by the inopportune hour of the birth of a granddaughter; and I well remember when, a week later, a second single absence was caused by his daughter's death, the simple sadness with which the grand old Esculapian said:

"Gentlemen: For my foolish boast of a week ago, I am rebuked. For my second delinquency, I shall not apologize." It was stuff like this which made him the pathfinder of this new period of collegiate training in medicine.

While 1871 is announced as the date of the organization of the St. Paul School, Preparatory, I have gathered evidence that as early as 1868 the students who were "reading medicine" in the doctors' offices of our sister city, had the privilege of meeting in the second story of the little stone dead-house (a room, perhaps, a dozen or so feet square), which once stood in the rear of St. Joseph's Hospital, and that there they dissected an occasional amputated limb, and were occasionally met and quizzed by their preceptors. I am indebted to Dr. J. H. Stewart, of St. Paul, for an interesting note regarding this period. He says: "My earliest recollection of anything that even simulated organized medical instruction in St. Paul was when, in 1868 or '69, the students, reading in the different doctors' offices, met in the second story of the little stone dead-house, which stood to the left of the orig-

inal building of St. Joseph's Hospital. It contained a table, chairs and the inevitable skeleton. Dissections of amputated limbs, etc., from the hospital were made there, and irregular instruction given by members of the staff, of whom I recall Dr. D. W. Hand and my father." The "old guard" of medical education in Minnesota always speak the name of the late Dr. D. W. Hand "with reverence and Godly fear."

The president of the St. Paul Medical School, Preparatory, and the pioneer of college education in Minnesota, was my old friend, Dr. Alexander J. Stone, always the same genial and scholarly gentleman that he is today, who will speak to us tonight. He lectured then on Diseases of Women, as he lectures still, but combined with it then the subject of obstetrics.

The secretary of the school was our Emeritus Professor of Surgery, Dr. Charles A. Wheaton, who talked Surgery and demonstrated Anatomy, in one, in the early days. The names of other pioneers are seen upon the list of the faculty. Among them we note the name of another clinician and scholar whom the profession honors, Dr. Talbot Jones, of St. Paul. Evidence and explanation, I find, of his marvelous erudition in the fact that he taught physiology in those formative years.

The faculty had a corps of eight teachers. The organization of the school with its four months' course of study was not designed, as this circular tells us, "to represent or to take the place of the work of a regular college, but to prepare students for a better understanding of the lectures they will hear in the college course and to drill them more thoroughly in the elementary branches that can be done in the short time allowed by colleges for instruction."

The arrangement of terms of study was such, therefore, that they "would not interfere with the winter course of the Chicago colleges." Accordingly, the summer term for 1871 began on the first Thursday in June and continued sixteen weeks, and a similar winter term was held in the following season. Fees for these terms were \$30 and \$25 respectively; or the enterprising student could have two for \$50, exclusive of dissections.

The published plan of instruction was stated by the Northwestern Medical and Surgical Journal of April, 1871, to be "in all respects thoroughly practical, using all available means of illustration." "The mode of teaching," it says, "is by daily examinations, conducted by one of the teachers, at his office, and by occasional lec-

tures and regular clinics, conjoined with oral discussions, in which all the students participate."

"The fact that practical anatomy can be taught each year forms one of the strongest arguments in favor of thus dividing the labor among several instructors."

An announcement of the second session of the St. Paul Medical School, Preparatory, appears in the Northwestern Medical and Surgical Journal of January, 1872, and it assures "students, living outside of the state, that the city of St. Paul is easily accessible from all directions and is one of the most beautiful towns in the West, already containing some 25,000 inhabitants, and steadily increasing at the rate of three to four thousand a year."

The Northwestern Journal of May, 1872, refers to the St. Paul Medical School, Preparatory, as substituting by individual "office instruction" in each topic, "the scarcely more than nominal general instruction usually obtained in private offices;" serving to establish for us the obvious link between the period of the preceptor and that of the medical school.

The schedule of lectures of the winter session of 1879-80, for the use of which and of the Circular Announcement of the School I am indebted to the courtesy of Dr. Frederick Leavitt, is an interesting antique. The hours of study, six a day, were from 3 to 10 p. m., presumably to suit the convenience of the busy practitioner. The course of dissections began every evening at 9 o'clock and possibly included a search for anatomical material in the hours when ghosts traditionally walk in the graveyards. The schedule presents a curious combination of chemistry and orthopedia, to which four hours a week were assigned. Perhaps there were experiments in both subjects. It would be interesting to see the orthopedist of today teaching chemistry. Anatomy, physiology, chemistry, diseases of the eye and ear, obstetrics and gynecology, practice of medicine and surgery, materia medica and therapeutics, orthopedia and dissections were all taught at one and the same time and to the selfsame class. One can imagine the weary student of that day, at the close of his midnight schedule, going to his rest with this whole array of medical and surgical topics in his mind, "in one red burial blent."

In the year 1871 was penned the following notice and resolutions which were presented to the American Medical Association by Dr. Franklin Staples, of Winona, Minn. They are of in-



trinsic interest as expositors of their time and of extrinsic mark on account of their remarkable state of preservation:

"Notice:

"I desire to present a brief paper at the next annual meeting of this association upon the subject of

*"The Instruction of Medical Students preparatory to their entering the medical college and during the time of their course of study when they are not in attendance upon college lectures or instruction.*

Franklin Staples, M. D. (Signed.)  
Minnesota."

"Resolutions:

"WHEREAS, The plan of 'reading medicine,' as it is ordinarily pursued by medical students in the offices of single practitioners, is, at best, defective, and frequently a mere nominal, rather than an actual, study of the art and science of medicine; and

"WHEREAS, The association of educated physicians, in local societies, is an important means of mutual improvement and professional culture, especially when engaged in the work of medical education; therefore,

*Resolved*, That, for the purpose of affording medical students better facilities for thorough and systematic study and professional training, and as a means of professional improvement among physicians who may engage in the work of instruction, this association recommends the establishment and maintenance of *private preparatory medical schools*, whose province shall be to prepare students for entering medical colleges and to afford them improved opportunities for study and professional training during the time when not in attendance upon college lectures.

*"Resolved*, That preparatory medical schools, established for the purposes above mentioned, shall only be considered as preparatory and auxiliary to the medical college, and in no respect a substitute for the same in any of its requirements for graduation, as regards time of attendance or course of study."

In December, 1872, the Northwestern Medical and Surgical Journal announced the opening of the second teaching venture in medicine in Minnesota, the Winona Medical School (Preparatory), of which, through the kindness of the widow of Dr. Franklin Staples, its president, we have the official announcement before us. The Journal "commends this school, together with

the pioneer institution of the same kind in St. Paul, to the interest of the profession." Its faculty consisted, in addition to Dr. Staples, of Drs. J. B. McGaughey, A. B. Stuart, W. H. H. Richardson, J. M. Cole and D. A. Stewart. It had a local habitation as well as a name, to which dignity the St. Paul school also later attained, although both of the old store buildings, of which they occupied the upper portions, have since been destroyed and are beyond recovery even by way of illustration.

Peculiar homage should be paid to the men, or to the memory of the men, who had the faith and the courage to undertake the task of medical education under conditions as difficult as they had to meet in those early days.

Both of these preparatory schools continued their missionary efforts until 1878, neither of them undertaking to do more than its self-appointed task of bettering the educational status of the profession; graduating no students; conferring no diplomas; boasting of no alumni; but remembered by many a physician whom they helped, in their unpretentious fashion, to a better understanding of and a better preparation for his life-work.

By 1878-79 the Winona school had survived its temporary usefulness and had modestly retired from the field, but in the same year a larger ambition possessed the souls of the St. Paul brethren, and a livelier sense of the growing demand for medical service in the Northwest inspired them to place their young institution upon a college footing. No longer content to serve as a feeder for the Chicago schools, they ventured into the rapidly widening arena of private medical college teaching and competition.

The St. Paul Medical College was organized, and in the following year became the medical department of Hamline University, the first professional child of our Methodist sister's adoption. We have its third annual announcement before us, which reminds us that its Dean, Dr. Alexander J. Stone; its Professor of Anatomy and Clinical Surgery, Dr. Chas. A. Wheaton; its Professor of Surgery, Dr. F. A. Dunsmoor, and its Professor of Nervous Diseases, Dr. C. E. Riggs, are with us still. Of its faculty, also, was the late Dr. George Franklin French, a nobleman and a scholar, both by nature and by culture, of the medical profession of his day.

Its list of students offers evidence of its still near relation to the ante-college period, in the record of the individual preceptor who stood

sponsor for each student. In the class of that year we find twenty students, and among them are to be recognized ten future practitioners of the Twin Cities and one past and one present member of the University faculty.

The St. Paul Medical College, like its contemporaries in general, began with a two years' course in medicine for the degree. In this announcement, however, it advanced the requirement to a three years' college course and declared itself the first of American colleges to announce a four years' graded system. It is fair to say that so many colleges of the country, and most of the colleges subsequently organized in the state, advanced this claim, that its priority is not officially determined.

It is to be remembered that in all schools of these formative days the years of study were not necessarily identical with the courses of lectures. A three- and, later, a four-year system meant a year of professional reading with a preceptor, and subsequently two or three annual lecture courses, as the case might be. Grading was determined by examination subjects confined to each year, but students were permitted to attend a complete vaudeville of lectures in all the courses offered for the entire two or three years at once, and many of them were attended two or three times over.

The annual course of study covered a period, relatively long in those days, of twenty-six weeks, while in many institutions it was not more than twenty-two, and in some only eighteen.

The third annual announcement of the St. Paul Medical College, which I have shown you, while it sowed the seed of good intention, never reached the period of fruition. The college closed with the spring session of 1881, and its faculty combined with an additional group of Minneapolis and St. Paul physicians to form the Minnesota College Hospital, situated in Minneapolis. Dr. Frederick A. Dunsmoor became its dean and remained in this position during the eight years of its history. Its organization marked a distinct advance in medical teaching, joining as it did the hands of teachers selected for the work in the Twin Cities.

The comparative standards of the day, both in medical education and in medical journalism, are to be felt, if not read, in the following announcement from the current number of the *Northwestern Lancet*.

"The 31st day of October witnessed the opening of a new medical college at Minneapolis.

The name by which the new college is to be known is the Minnesota College Hospital. The opening was a brilliant affair. The exercises were held in the large, elegantly fitted lecture room of the college, which was crowded to its utmost limit with the élite of St. Paul and Minneapolis. Governor Pillsbury, Rev. Neill, Rev. Tuttle, Prof. Towsley and Hon. D. A. Seacomb were among the notables present.

"The college occupies a part of the magnificent building known as the old Winslow House, situated in East Minneapolis, and having a capacity of 300 rooms. A portion of this building is used for hospital purposes, over thirty patients being in the private rooms and wards at the time of the opening. Thirty matriculants have entered for the first year."

The *Northwestern Lancet* again tells us that on March 24, 1882 (and it is to be regretted that the St. Paul College term of twenty-six weeks was shortened to twenty-two in the new college), the first commencement exercises were held, at which the valedictory was given by Dr. Edward C. Spencer, of St. Paul, later of this faculty, now deceased.

The address in behalf of the faculty was delivered by Prof. Alexander J. Stone, of St. Paul, "this gentleman being in one of his happiest moods." And, in the twenty-five years in which the writer has happily known him, he has never seen his moods stated otherwise than in the superlative degree.

History begins to be crowded at about this time and the historian finds it difficult to record events in their strict chronological order.

In the year 1882 the University of Minnesota took the initial step toward availing itself of its constitutional privilege, under the State Constitution of 1853, of creating a department of medicine, and we are here today to do our reverence to that pious act.

The credit belongs to Dr. Charles N. Hewitt, of Red Wing, for many years secretary of the State Board of Health, and long a member of the University faculty, for the impetus to this important step.

On June 29, 1882, he presented a communication to the Board of Regents proposing the organization of the department of medicine.

The Board of Regents responded to the proposal by appointing a committee to present a plan of organization, consisting of

Dr. Charles N. Hewitt,  
Dr. Wm. H. Leonard, and  
President Wm. W. Folwell

It is recorded in the minutes of the first meeting of the committee, at which that plan was developed, that it was opened with prayer. The plan of organization was presented to the Board of Regents on December 28, 1882. The report of the committee is alike impressive and prophetic. It begins: "We are fully aware of the importance of the work committed to us; its influence on the future of medicine in Minnesota, and its relations to efforts now being made for a higher standard of medical education in other states. We have left no sources of information at home or abroad unsought, and we have carefully searched the history of medicine for precedents and aids in our work.

"We have to submit a working plan for the College of Medicine, which, not behind any in its demands for scholarly and practical acquirements on the part of candidates for licenses or degrees, shall be fully abreast in methods and means of growth with other departments of science and art in our country. Had further stimulus than your instructions been necessary, we have found it in the urgent need felt and expressed by educated physicians for just such an organization as you have instructed your committee to provide for.

"Never before has there been such unanimity among medical men in demanding that examinations for degrees in medicine be separated entirely from the teaching of its theory and practice.

"You have undertaken this thoroughly practical and necessary work none too soon.

"Throughout the country the number of colleges legally empowered to teach medicine and confer degrees upon their own pupils is increasing with reckless rapidity.

"The competition for students so engendered has reduced the standard of qualification of faculties, students and graduates alike far below the minimum of the reputable colleges who, following the lead of Harvard, are struggling to maintain reasonable requirements for degrees. But all these schools are hampered with the double and difficult duty of teaching and then sitting in judgment on their own work, and are heavily handicapped, as many of their best men admit, in the struggle with other schools who by that very combination of functions control so largely the number and education of the multitudes of graduates yearly qualified as doctors of medicine. \* \* \* \*

"To honest and faithful men, whether professors of colleges or practitioners of medicine, as

well as to all men and women who know what medicine as an art ought to be, your actions will bring welcome relief. \* \* \* \*

"Trusting that their labors may be found acceptable and useful toward the great enterprise in hand, they now respectfully submit this, their report, including the attached drafts of by-laws and regulations.

"(Signed) W. H. LEONARD, President.

CHAS. N. HEWITT, Secretary.

WM. W. FOLWELL."

The action of the Board of Regents upon this report, under date of January 5, 1883, is matter of record, and that record I have the opportunity to reproduce. It reads as follows:

Proceedings of the Board of Regents.

St. Paul, January 5, 1883.

The following resolution, offered by Regent Nelson, was then adopted, to-wit:

"*Resolved*, That there be and hereby is commenced at and in the University of Minnesota a College or Department of Medicine substantially in conformity with the plan embraced in the report made and submitted by Drs. W. H. Leonard and Chas. N. Hewitt and Wm. W. Folwell, and this day ordered spread upon the records of the Board."

The following resolution, offered by Regent Nelson, was also adopted, to-wit:

"*Resolved*, That Regents Hubbard, Pillsbury and Clark be and hereby are appointed a committee to select and nominate to this Board names of persons to constitute the Medical Faculty."

A true copy.

Attest:

(Signed) J. B. GILFILLAN,

Recording Secretary.

The creation of the department of medicine of the University of Minnesota, its faculty to be a non-teaching and purely examining body, was an historical response to the recognition, awakening to alarm the minds of medical men throughout the country of the undue multiplication, the low educational standards, the competitive struggle for a doubtful existence, and the precarious financial support of the private medical colleges.

Already, thinking men had come to realize that in the stress of territorial expansion, of rapid immigration, of commercial advancement, the doors of medical education,—the portals of the medical profession,—had swung too wide. Standards, instead of being raised, were being debased. Commercialism was tainting the col-



leges. Brief terms, short courses, insufficient preliminary training of the student, inadequate equipment of the schools, were the common rule.

The University of Minnesota took the first of several steps subsequently taken by the educational and professional agencies of the state, in the direction of a state medical quarantine.

The first faculty of the new department of medicine of the University of Minnesota had initially five members, but one of whom survives:

Dr. Chas. N. Hewitt, of Red Wing.

Dr. Daniel W. Hand, of St. Paul.

Dr. William H. Leonard, of Minneapolis.

Dr. Franklin Staples, of Winona.

Dr. Perry H. Millard, of Stillwater.

The last served as secretary of the faculty.

To this number the board added later:

Dr. Charles E. Smith, of St. Paul.

Dr. Charles Simpson, of Minneapolis.

Dr. George B. Wood, of Faribault, and

Prof. J. A. Dodge, of the University Department of Chemistry.

The legislature of 1883 passed an Act to Regulate the Practice of Medicine in the State of Minnesota, requiring all physicians to be licensed under the act and conferring upon the faculty of the Department of Medicine of the University the functions of an examining board, with power to approve and accept diplomas of recognized medical colleges, as evidence of fitness to practice, or to require the applicant for license to be examined by the board.

In this instance public sentiment, as expressed by the legislature, fell short of the purposes of the University, which were not only to subject the diploma to scrutiny, but to demand a professional examination of the applicant besides.

The act, in common with similar measures in many other states, was known as "The Diploma Law," and represented the first attempt at the state regulation of medical practice. Under the provisions of this act, as well as under the authority of the Board of Regents, the faculty of medicine organized.

Its first meeting occurred on April 23, 1883, and it is recorded upon the faculty minutes that it also was opened with prayer. It put itself at once into the relation of an adjunct to the teaching colleges of medicine, and among its first acts it adopted the following interesting definition of a recognized medical school:

"Whenever any physicians, holding the degree

of M. D. of a college recognized and approved by the Board of Regents, upon the recommendation of the faculty, to the number of four or more, in towns having a public hospital of not less than twenty beds, under the professional control of said physicians, shall associate themselves as a teaching body, and offer and give such text-book instruction, oral and written examinations and clinical instruction for such periods and in such manner as may be satisfactory to the faculty of this college, they shall be recognized by said faculty as a 'school of medical instruction'."

Accordingly, the department offered three forms of examination:

(1) An entrance examination, preliminary to the study of medicine, in writing, spelling, English grammar, arithmetic, United States history, general history, Latin grammar, and Cæsar, or, equivalent to the latter, in French and German.

(2) A scientific examination in the so-called pre-medical subjects of physical geography, natural philosophy, elementary botany, chemistry and drawing; and

(3) A professional examination for the degree of M. B.

To the graduate in medicine it offered the further degree of M. D. upon the presentation and satisfactory defense of an approved thesis.

At the outset of its work it gave a lingering suggestion of the influence of the era of the preceptor in medicine, in the provision that applicants may present themselves for its examinations who have had four years of study in the office and under the personal direction of a physician in active practice who is a graduate of some college or school of medicine recognized by the Board of Regents, upon the recommendation of the faculty of this college. It made the college courses simply substitutive for this study under a preceptorate, to the extent of their number and time value.

Theoretically, its examination system was valuable, but it had no power under the law to enforce its provisions, saving by indirect means.

A curious feature of the old law imposed upon the owner of a genuine diploma a license tax of \$1; upon the possessor of a fraudulent one (and fraudulent diplomas abounded in those days), a fine of \$20; but while it provided means, in the withholding of a license to practice, for the collection of the tax upon the honest instrument, it suggested no means of exacting the penalty on the dishonest sheepskin.

Itinerant vendors of drugs and healers of all varieties were put, by this otherwise imperfect law, under a monthly tax of \$100.

To return, at this point, to the private medical institutions of the state, history records that, in the same year with that of the organization of the department of medicine of the University of Minnesota, as an examining body, viz. 1883, another new college was created in the city of Minneapolis, under the name of the Minneapolis College of Physicians and Surgeons, which, twelve years later, became the second medical child of adoption to Hamline University, constituting, in 1895-96, its department of medicine; a college which enjoyed the distinction of greater age, or longer years of survival, than any other private school in the state.

It organized, in 1883, with a faculty of twelve, announcing a three years' course, of six months each. It, too, claims the enviable distinction of having been the first college in the state to announce this requirement. State history, however, with impartial hand is compelled to award the palm of the three years' announcement to the old St. Paul Medical College, the first under Hamline University affiliation. Since these two schools were alike proteges of our sister university, they can perhaps afford to share the pride of the prior announcement, each of the other's making. The teaching of the new college was done at first in the upper part of an old building on Washington avenue south and Fifth avenue, and later in the old Rand House on Seventh street.

During the earlier years the Minneapolis College of Physicians and Surgeons granted no degrees, but referred its students to the department of medicine of the State University for examination. It was not until the rival teaching department was organized at the University that this college assumed the conduct of its own examinations and conferred its own degrees. In the year 1895 it became the Department of Medicine of Hamline University and established itself in a commodious building on Fifth street and Seventh avenue south.

In the meanwhile, the Minnesota College Hospital continued its courses, year by year, in the old Winslow House. Its official records, unfortunately, have not been preserved. In the season of 1884-85, as the Northwestern Lancet announces, the school had fifty-five students, "three of whom," to quote the ungallant journal, "were females." Of the entire number,

eighteen were reported to be college graduates, twenty-nine were graduates of high schools or normal schools, while of the preliminary fitness of the remaining eight the deponent sayeth not.

During that session the dean of the Minnesota College Hospital made the then novel announcement that Dr. John F. Fulton, Professor of Ophthalmology and Otology, another of the pioneers of medical education in Minnesota, to whom the profession of medicine in the state is indebted for long and valuable service, would "give a *free clinic* on diseases of the eye and ear at the college building upon each Friday, and states that "all indigent afflicted are invited to avail themselves of the attention now, for the first time in the history of our state, offered to them." The student of today who takes his dispensary service as he takes his breakfast, as a matter of course, may find therein food for reflection and cause for gratitude for his daily clinical pabulum.

In February, 1885, the Minnesota College Hospital and the Minnesota College of Physicians and Surgeons alike received the recognition of the faculty of medicine of the University of Minnesota, as satisfactory schools of instruction.

In the spring of that year, a reorganization of the Minnesota College Hospital was effected; the members of the faculty, resident in St. Paul, resigned; the name of the institution was changed to that of the Minnesota Hospital College; its old location in the Winslow House was abandoned; stock was issued and funds raised for the erection of a new building, which was located at the corner of Sixth street and Ninth avenue south. This building was dedicated September 20, 1886. A diploma of the following year has fortunately come into my hands as a memento of the period.

The retired St. Paul members of the faculty reorganized the St. Paul Medical College, under a new charter, and it was opened to students in the fall of 1885.

Again, Dr. Alexander J. Stone stood, as president, at the head of the enterprise, while Dr. Chas. A. Wheaton took the position of vice-president. The faculty was selected from the medical profession in St. Paul, with the single exception of Dr. J. E. Moore, of Minneapolis, who occupied the chair of orthopedic surgery.

Funds were raised for a suitable college building, which was dedicated during the year 1886. The St. Paul Medical College similarly received



the recognition of the University Examining Faculty.

In October, 1886, the homeopathic profession in the city of Minneapolis decided to take an active part in medical education and organized The Minnesota Homeopathic Medical College, under the Deanship of a veteran practitioner, Dr. Philo L. Hatch, who was later succeeded by Dr. D. M. Goodwin. Its faculty numbered sixteen men and women, and its classes numbered twenty, during the two years of its existence.

During the brief period of its history, the faculty of the Department of Medicine of the University of Minnesota fulfilled a larger function than that which attached to it merely as a State Examining Board. It served as an educational influence which was felt in the teaching colleges of this and other states and to none of its members is a larger meed of credit to be given than to the memory of its Secretary, Dr. Perry H. Millard. Despite a habit of caution which made him often hesitant in action and indirect in policy, he was a man of large conceptions of his calling. He was a curious combination of the statesman and the politician in medicine. He could see ahead of his times, if he could not always keep abreast of his own ideas. He was certainly a projection point in the medical period in which he lived.

The historian finds, in his familiar, and almost indecipherable, handwriting, the records of much that he accomplished and the evidence of the many personal limitations and professional difficulties which he had to overcome. He gave to the faculty of the first department of medicine much of his own initiative. Among many interesting items, which bear upon the status of medical education in the Minnesota of that day, one culls out his qualifications of candidates for the state examinations in 1883-4. They were:

(1) Attendance upon one full course of lectures upon the subject of each study under examination.

(2) A familiarity with the literature of the subject.

(3) His clinical and laboratory experience.

(4) His skill in the actual use of physical and chemical tests in diagnosis, etc.

(5) A certificate of dissections of the muscular, nervous and circulatory systems.

In his citation of the subjects for examination he names as prerequisites in physiology, the demonstration of normal tissues and products, and of the relations of the living body to its environment; under pathology, the demonstration

of specimens and examination of cases for diagnosis, the use of chemical agents and of the microscope to this end; under practice, the use of diagnostic instruments and a systematic examination and record of cases.

An interesting relic of the days of this first department of medicine and the first Minnesota licensing board, is this certificate to a graduate of the Minnesota Hospital College, bearing all the signatures of its members.

An old detached item of Dr. Millard's minutes of the faculty meeting of May 4, 1887, is of interest as an exhibit of his curious handwriting, familiar to many of us, as a note of faculty transactions and as containing the statement of his own resignation from the Board.

That resignation was the prelude to two important and progressive steps in the history of medical education in Minnesota, with which he had much to do. It meant the introduction into the legislature of 1887, of a new medical practice act, to be thereafter known as the examination law and creative of an independent State Board of Medical Examiners. With but a single exception, and that in the old fashioned measure of South Carolina, it was the first act of its type to be placed upon the statute books of any state; an act, which, since that day, has been the model of most of the medical practice acts of the Union. It was a direct challenge to the efficacy of the medical diploma as a test of the fitness of the candidate to practice.

It put the State of Minnesota to the forefront in the educational councils of medicine. It and its legislative archetypes have, perhaps, done more than any other single influence to elevate the standards of medical education in the entire country, to test the fitness of the efficient schools and to secure the extinction of the notably unfit. That movement was accompanied, in the same year, by a petition to the Board of Regents to establish a teaching department of medicine of high grade in the University of Minnesota, and to the legislature to provide for its maintenance. The logic of the situation appealed to most of the medical teachers of the day, and on February 28, 1888, the faculties of the Minnesota Hospital College and the St. Paul Medical College appeared before the Board of Regents, in support of the petition, with the offer to surrender their charters and with the tender of their properties for the temporary use of the state. A month later, the Minnesota College of Homeopathic Medicine followed suit.



## THE UNIVERSITY PERIOD

These proposals were accepted by the Board of Regents and faculties of the new department of medicine, to include colleges of medicine and surgery, of homeopathic medicine and surgery, and, later, of dentistry and of pharmacy were named and organized.

The building of the Minnesota Hospital College was nominally leased as the temporary residence of the department and instruction was carried on there during the ensuing five years.

The Faculty of the College of Medicine and Surgery included twenty-nine members, headed by Dean Millard, who was, at the outset, also Dean of the entire department.

In October, 1888, the first entrance examinations were held and were conducted by a committee of the College of Science, Literature and the Arts.

The qualifications for admission upon credentials, were the matriculation of a college of science, literature and the arts; a high school or normal school diploma; a first-class teacher's certificate; or the certificate of the State High School Board.

The examinations required, in lieu of these credentials, included an English composition of two hundred words, legibly written; the translation of easy Latin, German, French or Skandinavian prose; elementary algebra or plane geometry or botany; and elementary physics.

If these preliminary requirements seem low to the student of today, he must measure them by the prevalent standards of twenty years ago and he will then appreciate the lusty efforts that were required to establish and maintain them.

The course of study covered three years of six months each.

The fees, some of you may be interested to know, were \$35.00 a year for residents, and \$60.00 for non-residents of the state. It is small wonder that the private colleges found the struggle for survival fierce. Dissecting material was extra and scarce and, since there were practically no microscopes in use, when the department began its work, there were no microscope fees to vex the impoverished pocket of the pupil.

The first faculty meeting was held on June 8, 1888, when by-laws and rules, framed by the present speaker, were presented and were adopted at the session of January 29, 1889; many of them remaining in force unto this day. In March, 1889, the first medical announcement was issued.

The record of the successive years of the de-

partment's history is full of interesting reminiscences to those who have participated in its progress. Time will allow of the suggestion only of the more markedly epochal incidents, or of events which have served as the milestones by which we may measure the length of the road along which we have travelled. In the telling of this story, in brief, we shall not forget to pause in remembrance as we pass over the names of those whom death has entered upon a higher roll-call.

In the year 1890, the Medical College term was extended to eight months. In 1891, the Faculty lost a talented teacher and a companionable spirit in the early death of Dr. Edward C. Spencer.

The historian notes, in the minutes of 1892-3, that Dr. Thos. G. Lee preferred a request to be assigned the subject of embryology and modestly asked for *one* didactic hour a week in histology and bacteriology combined, during the entire session. The Faculty evidently felt the necessity for curbing the rising ambition of this and other related chairs, and Prof. J. Clark Stewart rose to faculty fame in the putting of a motion which limited histology to sixty-four laboratory hours; embryology to ten lectures; bacteriology to twelve didactic hours; pathology to thirty-two hours, (the present Dean not having yet appeared upon the stage of medical vaudeville); anatomy, chemistry and materia medica were limited to one hundred twenty-eight hours each; therapeutics to fifteen hours; and physiology to only ninety-six hours.

Students within the sound of my voice will congratulate themselves that they are not required to condense their study of these major subjects into these allopathic and massive doses and that a principle of dilution now obtains by which these concentrated solutions of fact undergo dissociation and, consequently, possibly absorption. For the purpose of this dilution, the Faculty and the Regents extended the college course in 1894 to four years.

In the previous year, 1893, the legislature provided for the removal of the department of medicine to the University Campus, an event which the members of the department hailed with joy and the rest of the institution with fear and trembling. To the academics of that day, the incoming of the medic was like the alarum of the barbarians at the gates of Rome.

The Board of Regents, in that year, built Medical Hall and the little chemistry building, the former afterwards re-christened with the name of Dean Millard.

In the latter edifice, smaller, then, than it is now, chemistry, histology, pathology, the infant bacteriology, and, later, pharmacy, were all housed; while Medical Hall accommodated all the rest; physiology being penned up under the rafters of the amphitheatre in the old building, as it was later penned up under the rafters of the lecture-room in the new. Nevertheless, to the teachers who had taught and to the classes who had studied, in the building afterwards inhabited by Asbury Hospital, the new quarters appeared spacious enough.

In this year the several colleges of the department were reorganized upon a definitely individual basis and a Dean was elected to the charge of each.

In 1895-6, the Laboratory of Medical Sciences was added to the medical buildings, and to it histology, pathology and bacteriology, physiology, and the college of pharmacy were removed; "the bowling alley" being left to the undivided occupancy of the department of medical chemistry. At this time, the present graded system of study was definitely developed.

The session of 1895-6 was distinguished by the coming to the University of the present Dean, to occupy the Chair of Pathology and Bacteriology.

The following year was sadly signalized by the passing of the first Dean of the Department and of the College, Perry H. Millard, who died February 2, 1897.

No history of the department of medicine could be faithfully written which did not write large the name of Dean Millard upon its records, as it is written large upon the tablets and in the title of Millard Hall. It fell to the lot of the present speaker, at the request of the President, to write the memorial which stands upon the minutes of the Faculty of that day and it seems to him altogether fitting that this memorial, than which no truer words can be spoken, should be made a part of this story. And he asks permission, therefore, to place it there.

*Memorial to Dean Perry H. Millard.*

Adopted by the Faculty of the College of Medicine and Surgery of the University of Minnesota, February 3rd, 1897.

The Faculty of the College of Medicine and Surgery, of the University of Minnesota, records, with sincere regret, the untimely death of its Dean, Doctor Perry H. Millard.

In his death, a loss is sustained—not by this Faculty alone, but by the medical profession of

the State of Minnesota and by the cause of medical education throughout the country.

He was a self-made man, of large natural resources, of indomitable energy and perseverance, of unswerving devotion to his chosen purposes, and those purposes had, at heart, the good of his profession.

To that profession he devoted twenty-five years of his life—achieving an enviable success in its service. In it, he filled many positions of trust with faithfulness and places of honor with modesty.

His services to the State of Minnesota are written upon her statute-books and in the history of her medical institutions. He was the author and inspirer of the laws which have regulated the practice of medicine in the state, and, particularly, of that progressive measure known as the Minnesota Medical Practice Act, which has become the type of legislation for more than one-half of the States in the Union.

He was one of the most active organizers of the American Medical College Association, a body which has been eminently serviceable in elevating the average standards of medical teaching in this country.

His most signal service was rendered in the projection, organization, and development of the Department of Medicine of the University of Minnesota. It was in his brain that this institution, which has taken rank among the foremost professional schools of America, first took shape. It was his influence which secured the surrender of the charters of those private colleges which united in its establishment. It was largely through his unceasing labors and his persistent enthusiasm that it was placed upon the University Campus under the roof of Medical Hall. It was his first ambition, his daily duty, his well-justified pride to forward its interests throughout the years of his fatherhood of its Faculty.

He passed from its immediate service, under the inevitable compulsion of a death-warning he had too long refused to heed, to a death summons which commands the sorrow of his associates and inspires this memorial to the duty he has wrought.

On the 28th of May, 1897, by nomination of the faculty and appointment of the Board of Regents, Dr. Parks Ritchie was installed as Dean, in succession to Dr. Millard.

In the same year, the Faculty lost two of its most valued members, in the death of Dr. Charles



L. Wells, Professor of Diseases of Children, in which field of practice he was highly distinguished; and in the resignation and removal from the state of Dr. Frank Allport, of the Chair of Ophthalmology and Otology, one of the most progressive of Minnesota's medical educators.

In 1898-9, a uniform entrance examination was agreed to for the medical departments of Minnesota and Hamline Universities, alike, an arrangement which was maintained until, in 1902, a year of University work was adopted as a preliminary requirement by this Faculty.

At this time, a seven-year course, leading to the degrees of B. A. and M. D., was made possible by the establishment of the principle of election of work in the medical sciences, of the first year in medicine, in the senior year of the academic course.

Death, again, in this year, levied its heavy tolls upon the Faculty of this College, in the removal of Dr. Albert E. Senkler, Professor of Practice of Medicine, and of Dr. George A. Hendricks, Professor of Anatomy,—men of the most genial natures, of faithful service and of scholarly attainments.

In 1900-1, the entrance examinations to the College of Medicine and Surgery were made identical with those to other departments of the University, and the partial principle of election was provided for in many special medical subjects. At the opening session of 1901-2, the College year was extended to nine months. In October 1901, the Faculty lost one of its most active workers in the resignation of Dr. Chas. A. Wheaton, of the Chair of Surgery, who, in the following year, was made Emeritus Professor in that branch.

In the year 1902-3, the Faculty was called upon to lament the loss of another, among its younger clinical teachers, in the death of Dr. Rollin E. Cutts, whose widow, herself an alumna of the College, has endowed a memorial prize-fund which bears his name.

During this session, the Board of Regents was petitioned, by this Faculty, to establish a six years' medical course in the colleges of science, literature and the arts and of medicine and surgery, looking to the double degrees of B. S. and M. D.; the former to be conferred at the close of the fourth year and the latter at the end of the sixth year. The Board appointed a joint committee from the two colleges to present a plan for such a course, and this committee is still concerned in its management. The plan for the six years' medical course, evolved by this

committee, was adopted and offered by the Board of Regents, in 1903-04.

The subject of much skepticism at the time of its initiation, the course has met with a measure of success unexpected even to its projectors. The students taking the first two years of the course numbered thirty-four in 1903-4; thirty-seven in 1904-5; fifty-three in 1905-6; seventy-four in 1906-7; eighty-eight in 1907-8; one hundred in 1908-9.

In the succeeding summer, the ranks of the Faculty were again invaded by the untimely death of Professor Charles J. Bell, of the Chair of Chemistry, a man of rare genius in his special field.

In the following year, another great loss to the Faculty and the University was suffered in the sudden taking off of Dr. James H. Dunn, the successor to Dr. Wheaton in the Chair of Surgery.

The resignation at this time and the subsequent death of Dr. W. S. Laton, of the Chair of Laryngology, regretted both as a teacher and a professional associate, are to be recorded.

In December, 1905, the University of Minnesota received the announcement of the bequest of \$115,000, from the estate of Dr. and Mrs. A. F. Elliott, by its executor, Walter J. Trask, Esq., to be devoted to the building of the Elliott Memorial Hospital, an event which has been the promise of a great and coming good, not yet, but very soon to be realized, by the College of Medicine and Surgery, in the focussing of its clinical, as well as its laboratory, service upon the new University Campus.

In May, 1905, Dr. J. W. Bell, one of the original members of the medical faculty, the tale of whose faithful service to the profession and to the University is not yet told, resigned the professorship of Physical Diagnosis and was elected to the Emeritus Professorship and to the rest from active work which he had so well earned.

The legislature, during this year's session, made appropriation for the building of the Institute of Pathology and Public Health, which, in 1906-7, was completed and occupied jointly by the Department of Pathology and Bacteriology and by the laboratories of the State Board of Health, which had for several years been under the management of the chief of the associated department, Dr. F. F. Wesbrook.

In June, 1906, Dean Parks Ritchie, who had given to the conduct of the College nine years of faithful service, presented his resignation to



the Board of Regents. His successor was named by the Board in the person of Dr. Frank Fairchild Westbrook, the present incumbent of the deanship.

In the winter of 1906, a group of philanthropic citizens of Minneapolis, interested in forwarding the clinical interests of the College of Medicine and Surgery and in seconding the efforts of the University to secure the aid of the legislature, in the support of a hospital service, presented to the Board of Regents the sum of forty-four thousand dollars, for the purchase of a hospital site. With the Elliott Memorial Hospital bequest and this land-purchase fund in its hands, the Board of Regents secured from the legislature a tentative appropriation, for the maintenance of the hospital, of \$25,000 per annum.

The college is anxiously awaiting the development of plans for the new campus and the settlement of certain of the vexing problems which thwart that development, for the selection of a site and the erection of the first of the hospital buildings and the permanent attainment of its own clinical service. Meanwhile, the Faculty is asking the Board of Regents for the equipment and use of temporary buildings for the immediate care of patients and the conduct of clinics.

With the opening of the present season, the standards of medical education were again advanced, and in most important, because essentially cultural, values, by the requirement of two years of university training for entrance to the study of medicine, a measure which the Faculty had advised the Board of Regents to adopt as early as 1905.

As further means of applying the work of these preliminary years of university culture to medical training, the Faculty has ruled that courses representing one year of study in physics, inorganic chemistry, qualitative analysis, biology and in either French or German shall be made obligatory features therein.

The direct result of the two years' university requirement, with these necessary courses embodied in it, is to enter practically the entire medical student body for the six years' medical course; the first two years of which are conducted in the College of Science, Literature and the Arts, and include these prescribed studies; the remaining four years being given in the College of Medicine and Surgery. The immediate influence of this, as of former advances in preliminary requirements, has been clearly seen in the higher quality of the student body.

An indirect benefit arising from the general

adoption of this course for medical students, is to be seen in the opportunity it affords for the demonstration of the cultural value of the foundational medical sciences in comparison with other and older cultural studies.

The medical educator of today believes that the deeply humanizing influence and the broadly intellect-building quality of the study of the natural phenomena of the universe, including the nature and the function of the body and the mind of man,—in a word, of the study of the laws which the Creator has evolved,—are as great as the cultural results which are attained by the study of the languages which man has spoken, of the literature which man has written, or of the mathematical principles which the mind of the creature has evolved.

In 1904, Musser observed that "in but few medical schools is there a serious attempt to educate sanitarians." It was doubtless his own recognition of the fact that the medicine of the future is to be very largely the science of disease-prevention and of health-preservation, which prompted that criticism. It is its own recognition of the truth which is leading the Faculty of this College to develop this important phase of medical education, and to thus fit the student of medicine the better to fulfil his normal function in society. To this end the Faculty has added, during the current year, to the six years' course, the study of social economics.

It is the recognition of the larger truth, that disease is not only physical, but mental and moral disorder, as well, and must be so treated by society, that the cure of bodily and mental ills is one in nature with the cure of vice and crime,—that health is a function of the whole man,—which is leading us to the introduction, also, of proposed courses in psychology and social pathology.

On the 11th day of February, 1908, that event was forecast which has suggested the celebration of this evening, in the opening of negotiations by the medical department of Hamline University for adoption by the University of Minnesota. Upon February 20, 1908, a plan of adoption was presented, for action, to the Faculty, by which the medical students of Hamline University should be received and their medical education completed, for the bestowal of the Hamline University degree, within four years; by which certain members of the Hamline Department Faculty were invited to positions upon the University corps of instructors; and by which the equipment of the retiring College was to be

purchased. The plan was approved by the Faculty, and ratified by the Board of Regents on March 4, 1908. Thus passed from the field of medical education in Minnesota the last of the private medical institutions of the state and one which, under great financial burden and in competition with a state-endowed college, had maintained its recognized position through an almost unbroken period of twenty-five years, within which a rapid succession of advances in medical education has been made.

On May 29, 1908, the Faculty had to record the loss of Dr. Jacob E. Schadle, Professor of Diseases of the Nose and Throat, a man of scientific and professional attainments of unusual degree and of singular devotion to his calling, with whose decease the death-roll of the Faculty of the College of Medicine and Surgery is painfully complete.

In estimating social success, we speak, too often, in terms of dollars and cents, and in estimating educational success, we speak too frequently in terms of numbers, which, while not a just index to achievement, are of statistical interest.

A faculty which, in 1888, numbered 29, now includes 114 teachers of medicine. Subjects of instruction have undergone necessary subdivision and new subjects of medical interest and import have arisen; departments which were then conducted by a single man, are now employing from three to seventeen teachers and their helpers; laboratories which did not then exist and were many of them non-existent in any institution in the country are now suitably manned and fairly equipped.

For many years, members engaged in the conduct of the executive affairs of the College have felt the need of a better organization of so large a force and of so varied interests. They have realized the necessity for a definite unit of organization, for a better principle of representation of these units in the conduct of college business, and for the creation of a general teaching body to which all teachers of medicine, of all degrees of standing and all periods of service, should belong.

This reorganization the Faculty has finally achieved. The unit in this organization is the Department, consisting of its chief and its faculty or staff, including the entire teaching force attached to it. It is to develop its own courses of instruction, to subdivide its service, to meet regularly for discussion of its work and its needs,

and to pass upon the work and determine the standing of its students.

It is to be represented by its Chief, or his alternate, in the Executive Faculty, which the heads of the twelve departments, so constituted, compose, and to which the conduct of all faculty business is assigned.

To a General Faculty, all chiefs, professors and instructors engaged upon the teaching corps belong; a body, which will meet, semi-annually, for social intercourse and for the consideration of questions of educational policy.

A great improvement is expected, under this reorganization, in the development of the educational interests of the college.

During the twenty years of its existence, the College of Medicine and Surgery has entered 1,468 students, and has graduated 934 doctors in medicine; the percentage of graduates to matriculants is 63.8 per cent. There are several factors by which this percentage is controlled. A certain number, realizing their unfitness for the work they have undertaken, discontinue the course. Others, on account of financial inability, turn to other callings. The Gilfillan loan fund has been a means of aiding a number who would otherwise have been forced to abandon their ambitions, but still other scholarship funds are needed to similarly assist students who need encouragement toward self-help.

A small proportion of those matriculated fail, sooner or later, to meet the requirements of the College and either abandon the study of medicine or go to private schools which offer an easier mark.

A loss—and too large a loss—in numbers, is sustained in the departure of students, in good standing, to other medical institutions. Usually the line of cleavage, in their relationship to the University, comes at the close of the second year of the medical courses, and that line leads us up to the reason of its being. Usually, they go to the larger centers of population and medical teaching, because they believe, rightly or wrongly, that there they can find larger clinical opportunities. Subdivide the clinical material in any city by the numbers of medical students seeking a share in the clinical meal, and it is extremely doubtful whether they will secure any better portion than the University of Minnesota, with its clinical clientele of the Twin Cities, affords.

Nevertheless, this defection and its causes, mark the most important issue which the College



of Medicine and Surgery, at the present juncture, has to face.

It is *not* mass of clinical material that it lacks. It is *availability* of material. Its students have to go too far and to too widely separated points to get their clinical daily bread—and, in the last two years in medicine, clinics are the daily bread for which we pray. And when they get to the points of distribution, the supply, which is sufficiently liberal, is too hard to get. The private practice and the private hospitals of the two cities have long and generously fed the clinically hungry student out of their privileged stores. The public hospitals, in their management, have not yet risen to the conception to which those of older civilization than ours have reached; the conception that they have, not a single, but a double, function to fulfill; that while, first, they serve the needs of the public for medical care; secondly, they are the proper object-lessons of medical education; that, so far from favoring the medical profession by the offer of their clinical opportunities, they are a favored means of promoting the public good in the higher education of medical men and women for the service of the people. For, whether remunerated or not, and all human service is remunerative in the mass, it is the service of the people in which the medical profession, and, in particular, the medical educator, is engaged.

There is, possibly, another factor which has tended to reduce the percentage of our matriculants in medicine graduating from the University of Minnesota, to which the writer does not hesitate to refer. The fear of the State Board of Medical Examiners has ever been before the eyes of its graduates.

No history of medical education in the state would be complete which did not chronicle the important influence which the State Board has exercised over it. Minnesota, practically the first among the states of the Union to enact an examination law, has held to her position of precedence in matters medical. Her Board, with or without the aid of the legislature, has been quick to follow the steps of progress which the University has taken.

From a twenty-two weeks' to a twenty-six weeks' term, the Board has been ready at any time, with legislative consent, to advance to a thirty-six week year on the University model.

From a two-year course, to a three, and to a four-year requirement, for the period of medical study, it has advanced with the times.

From an elementary examination for entrance to the medical colleges, to a high school diploma, and, from this, to one, and to two years of university work for admission, it has gone step by step.

It has endorsed the refusal of the College of Medicine and Surgery to accept academic courses in the foundational sciences as an equivalent for medical courses, realizing, with the University, the unfitness of the recognition of a theoretical equivalence based upon no uniform or minimal standard.

The medical colleges of the West literally "went into the air" when that decision was announced, but the State Board of Medical Examiners "stood pat" and the colleges have been compelled to come to its high terms.

Its examinations have been upon a par with its rules and they have been an object of reverence and holy fear, not only to the non-resident, but also to the home student of medicine. And with a measure of reason.

Of all applicants for license to practice medicine, all taking examinations before the State Board, since its creation in 1887, 28.5 per cent have failed. Of the graduates of the University of Minnesota, taking examinations before the State Board, in all years, 16.8 per cent have failed. Of the graduates of this University, taking examinations before *other* State Boards than that of Minnesota, only 5 per cent have failed. And that many have gone elsewhere for state examination, is shown in the fact that the percentage of failures in state examinations of Minnesota students everywhere, including Minnesota itself, is brought down to 7.5 per cent.

Undoubtedly, the quality of the State Board examination has raised the general character, as it has diminished the numbers, of the medical profession of the state; for while the average number of the doctors to the people in the states at large is 1:636, in Minnesota, it is 1:943. In no other state, is the proportion of professional numbers less, excepting South Carolina, the ancient and single possessor of the old-time examination law. Undoubtedly, the influence of the State Board has been effective upon the standards of medical teaching within our borders.

The twenty years of the life of this teaching department of medicine concludes the period which I have described as that of the day of the private schools of medicine, and it marks the beginning of the third phase of medical education—the developmental period, which, varying in the



date of its commencement, in different parts of the country, has been marked, everywhere, by the rise and endowment of the university schools; by the union, for greater strength and fitness, of private institutions with each other; by their mergence into university departments, or by their frequent extinction.

The relation to the country's growth and to the extension of immigration, of the second period in medical education, is shown in the early gradual rise of this college movement, as well as in its later rapid and even riotous course. The temporary and transitional quality of the period, in each and every part of the United States, is equally well seen in the facts of its fall as it is in those of its rise.

At the beginning of the nineteenth century, only six teaching institutions of medicine were in existence, of which four remain unto this day. In the first quarter of the century, 14 appeared, of which 9 are extinct; in the second quarter, 66 were born, of which 56 are dead; in the third quarter, 117 were created, of which 93 have ceased to be; in the last quarter, 254 were organized, of which 187 are no more; and in the first unfinished decade of the twentieth century, 66 have been opened or reorganized, and 26 have been closed. In all 376 of these colleges are extinct and 150 colleges or university departments exist. Of the 150 medical institutions still teaching in the United States, 67 are already affiliated with universities in high standing.

Undoubtedly it is true that the crest of this tidal wave of private medical college education has been reached and passed in the country, as a whole, and that it has come and gone, after rising and receding in Minnesota nine times, is the signal fact which we are assembled to celebrate tonight.

It may be of passing interest to note that the most ancient institution of medicine, existing under its original charter, which the United States possesses today, is hers by conquest rather than by creation, and is known as the Department of Medicine of the University of St. Thomas and is situated at Manila, P. I.

A power for good which has served greatly to encourage the rise of the developmental period in medical teaching has been felt, in recent years, in the work of the Council on Medical Education of the American Medical Association. That work has been statistical as to the past, informational as to the present and educational as to the future.

The need of such an agency is seen in the still

unfortunately low level of the standards of many of the still remaining private schools. That the ideals which the Council finds it practical to present have been long since exceeded by the university schools is satisfactory evidence of the period to which they belong.

The rise of this developmental period has been a necessity of the birth of scientific medicine. Within scarcely more than a quarter of a century, modern medical science has grown to full stature. That growth has involved the better preliminary training of the student, the multiplication of college courses, the introduction of laboratory methods of study, the necessities of better equipment, the increase and higher attainments of the teaching force, the specializations of practice, and either endowments or state appropriations commensurate with all these needs. A college dependent alone upon the fees of its students, cannot meet these educational demands. The university is the only adequate answer to the challenge of the spirit of medicine in these times.

I have brought this history, Ladies and Gentlemen, up to the threshold of today. At that threshold we believe that we,—all of us: the University of Minnesota and the State at large, the profession of medicine and the medical faculty,—have reached an important vantage-point, from which future progress will be the greater, in this attainment of the unity of medical teaching in the state.

We believe that we have established a vital principle and power of growth in fixing the place of medical teaching in our University system, that the upbuilding of the standards of medical education can be most surely and safely accomplished under the fostering care and the permanent control of the state. We believe that this principle of state support and supervision of public education should obtain from the primary grades to the professional schools, and that, especially, should it be extended over those forms of culture and scientific training by which men and women are fitted for that most responsible of callings, which is devoted to conserving the health and saving the lives of her citizens.

We believe that the efficient safeguards of the commonwealth should be thrown around the people, not merely in the regulation of the *practice* of medicine, but in the *education* of those who are to be entrusted, largely, with the maintenance of the public health, with the prevention and control of human disease, with the phys-

ical and the mental development of human beings and with the preservation and extension of the term of human life. It is a large duty which is committed to us who serve, as the representatives of the state, in the conduct of medical education, so conceived and so interpreted. It is a broad outlook over which the medical teacher of today gazes forth. It is an especially large vision of the future possibilities of medical teaching, to which, from this story of the past of medical education, we turn; and we may not diminish it by any want of faith, or by any failure to appreciate the importance of our individual service.

"He does not read history aright who imagines that what was done by men in remote ages, whose names have resounded far, has any greater significance than what he is doing today." It is not merely to a vista of future possibilities that we look. It is to a present, packed full with the projects of fuller achievement, active with opportunities awaiting us, for which we have worked and waited long, fraught with that power, put into our hands, which concentration of energy and unity of purpose always command, that we turn us tonight.

Out of this evening's retrospect of the earlier days, let us draw inspiration for larger effort, let us gather strength sufficient to our day, muster courage for a forward look. Great gain is there, always, in retracing the footsteps in which we and our forerunners have walked. Faith has always found a stimulus in the picture of the past, and work, new energy in the realization of the rough road over which the Providence of the ages "hath all our fathers led." And happily for men, that vision of their parentage and their past, has always restored to them the appreciation of the Helping Hand which has enabled them to level the mountains of obstacle and to turn back the waves of the Red Seas that have rolled across their pathways of endeavor. The memory of the long journeys through the wildernesses of other days, has reawakened in them, always, the too readily obliterated, but ever recurring consciousness of "The God of their Fathers."

And, in these days, when the doctrine of individual dispensations is so justly called in question, when we deny the presumption of a chosen people and ethically forbear to select ourselves as the favorites of Divine Grace, let us still entertain that higher conception of "a Providence which shapes *all* ends, rough-hew them how we may"; and let us humbly regard ourselves as co-

workers in the fulfillment of those serene and mighty purposes which make for human development.

And, if too greatly are we filled with the pride of past achievement, which, by our temporary measure, has been great; if over-much we magnify the work of our hands and of those who have builded before us; if too high, we gauge the level of our present place and too loftily lift the standard of our immediate desire, let us steady ourselves with the sober sense of ideals unattained, let us appreciate the largeness of the work remaining to be done and, as we steadfastly take up the tale of tomorrow's tasks, let us calm our anxiety to work out our self-appointed ways, curb our impatience to bring the projected circle, but the still broken arc, of our plans into a perfect round, with the safe and certain sense that

"God's greatness

Flows around our incompleteness;

Round our restlessness, His rest."

## The St. Paul Medical College

BY ALEXANDER J. STONE, M. D., LL. D.

Professor of Gynecology, University of Minnesota, and  
formerly President of the St. Paul Medical College

I appreciate very much the invitation to speak to you tonight from the standpoint of the pioneer, and I was more than grateful when the Committee told me that my talk would be limited to five minutes.

It is very hard to remember back thirty-nine years. The details of the very beginning were very, very small, so small that it did not seem worth while, in those days, to attempt to make any record of what we were doing, never dreaming that from that beginning of the St. Paul Preparatory School of Medicine, with its original four students, could develop this magnificent Medical Department of the State University, which today is recognized as one of the best medical schools in the world. It did not occur to us, then, that anything we did was worth recording or saving. Now we regret, exceedingly, that all publications which we issued were not saved, at least in duplicate. We regret now, exceedingly, that the minutes of the school, as they were born, were not preserved.

The origin of the school was simple. I came west, a young and ambitious man, from New



England, reaching here in 1869. I found no medical journal here. There was none published west or north of Milwaukee. I found, in conversation with the older men, that there was a probable field for one and began the Northwestern Medical and Surgical Journal, in the spring of 1870. That brought me into close contact with the leading medical men of the state and, through them, with the requirements of their students. The detail of the work in those days has been given, very eloquently, by Professor Beard. I could not improve it. We all decided that a preparatory school, such as that in which I took my preliminary medical instruction, in the city of Portland, was a necessity in the West and with the aid of Dr. D. W. Hand, Dr. Chas. E. Wheaton, Dr. E. Herman Smith, and one or two others whom I forget, either moved away or dead now, we started the St. Paul Preparatory School. We heard recitations, in our offices, for two years. We were then able to secure the upper portion of the morgue of St. Joseph's Hospital, and we taught there for three years more; we then rented the upper two stories of a building on Third street, bringing with us one of the most gifted medical men that we have ever had in the state of Minnesota, Dr. Geo. F. French, and also Dr. F. A. Dunsmoor. We began teaching in that building. In two years more, we formed the St. Paul Medical College, which was universally recognized, at the time, by the other colleges and the medical men throughout the United States, as the first college to require a four years' course.

The subsequent history of our relinquishment of the St. Paul Medical College and our union with the Minneapolis men, to form the Minnesota College Hospital, in Minneapolis; later of our resignation and re-formation of the St. Paul Medical College; and again of the union of the Minnesota Hospital College and the St. Paul Medical College, to form the College of Medicine and Surgery of the State University, has been given you in detail.

Of the trials and troubles which we had in those early days, those teaching now, those studying at the present time, can hardly appreciate. As president of the St. Paul Medical School, it was my duty, then, not only to teach the subjects assigned to me, obstetrics and diseases of women, but to fill at any hour, in any subject, the part of a teacher who could not be present, and, as a matter of fact, I had to lecture upon every subject, save that of chemistry, of which I knew nothing.

In looking over the old times and the old ways, bringing them down to the present, going over the good we were able to do, and not forgetting, but forgiving, certainly not regretting, our misfortunes and our troubles, I feel, as many others of us feel, who, since that time nearly forty years ago, have given our time, our services and our money in the cause of the advancement of medical education, without ever receiving or ever hoping to receive one cent of income, grateful only that we have been able to send out bodies of men, year after year, who have been a credit, not only to us as teachers, not only to our school, but a credit to the medical profession, both in the state and out of the state.

## The Minnesota Hospital College

BY FREDERICK A. DUNSMOOR, M. D.

Professor of Operative Surgery, University of Minnesota, and formerly Dean of the Minnesota Hospital College

In 1878 I was first associated with medical education in the St. Paul Medical School, which had for its college-building rented rooms over a saloon on Third street, opposite and near the Metropolitan Hotel, in St. Paul.

My first course of lectures was upon genito-urinary diseases. During the next two years, I gave the course in surgery, while Professor Wheaton, desiring the enforced grounding in anatomy, selected that chair for his work.

During this time the teaching body of the St. Paul Medical School had become the Medical Department of Hamline University, and the degree of M. D. was conferred by that institution. Dr. George F. French, of Minneapolis, joined this faculty in 1880. No professor received any compensation for his services, and we of Minneapolis journeyed to St. Paul on the Chicago, Milwaukee and St. Paul Railway, *via* Fort Snelling and Mendota, the trip taking one hour each way. In order to save time, we left the train at the suburban station between the cliffs and the river, and after walking through the red-light district, climbed one hundred and fifty steps to mount to the Third street level; then up one more climb of the outside stairway, and the professor entered the Medical College without formal anteroom or attending janitor.

The first class had five matriculants, with an average of three in attendance; the two sisters, Drs. Wass, making an overwhelming majority of ladies in attendance, and evidencing our early



recognition of woman's fitness for the medical profession.

Recognizing the finger of destiny, and having a firm belief in the rapid development of Minneapolis as a centre of education, and in the hope that a medical college would be most welcome and well supported here, I bought from Macalester College, the property so well known as the Winslow Hotel, with the spacious grounds on which it was erected. The purchase price was \$40,000; \$10,000 of which I paid at the time, giving back a mortgage of \$30,000 on the property. Shortly afterwards I turned this property over to the Minnesota College Hospital, subject to the \$30,000 mortgage, taking voting stock for the \$10,000 I had paid upon the property. The building, containing three hundred rooms, with large ball-room, dining-room, parlors and offices, lent itself admirably to the plan by which college and hospital were combined under the same roof. It also provided accommodations for all the students.

I called my warmest professional friends into consultation, and we agreed upon the organization of the College Hospital, following the plan of the Long Island Hospital, then existing in Brooklyn. The articles of incorporation were drawn by R. L. Stillman, Esq., in October, 1881, and signed by Thos. Lowry, Frederick A. Dunsmoor, Chas. E. Vanderberg, Geo. F. French, Chas. A. Pillsbury, A. W. Abbott, Edwin S. Jones, Thos. F. Quinby, Eugene M. Wilson, and J. A. Bissell. The members of the faculty of the St. Paul Medical College were invited to continue in their respective chairs in the new College, and they accepted and joined the movement, at once resigning, individually and as a body, their relation to Hamline University.

The first board of directors was, Thos. Lowry, President; Frederick A. Dunsmoor, Vice-president; George F. French, Secretary; A. W. Abbott, Treasurer.

Mr. Thos. Lowry, who was elected President of the Board of Directors, aided us greatly by his counsel and financial contribution, as well as by securing a donation from his friend, Mr. James J. Hill, of St. Paul, to the amount of \$5,000. At one time, during a period of financial stress, in order to keep the institution open in mid-winter, Mr. Lowry offered to pay the coal bill for one month, and was surprised to find it amounted to over \$700.

The first commencement exercises were held in the great ball-room on the fourth floor, and I well remember the great trepidation with which

we waited to hear the opening sentences of the valedictory address, given by the late Edward C. Spencer, the brightest member of his class. That feeling was immediately dispelled by the speech with which Dr. Spencer, with almost matchless fire, electrified and captured his audience.

The first graduates of the Minnesota College Hospital were, Chas. F. Allen, Albert C. Lewis, Edward C. Spencer, and Edward R. Thompson. Among the matriculants and alumni who have attained eminence and reputation of the highest standing in the Twin Cities, are found the names of Professor Archibald McLaren, Professor Arthur J. Gillette and Dr. Van Slyke of St. Paul; Drs. Geo. G. Eitel, W. B. Pineo, E. J. Gates, Geo. J. McIntyre, and G. F. Deziel of Minneapolis.

The devotion to the cause of medical education upon the part of the interested members of the profession, enabled the Board of Directors of the College to secure a teaching faculty without salary, and the remaining expenses were easily met by the income derived from students' fees for tuition. Not so with the Hospital Department. The cost of heating the immense building, the salaries of employes, the interest on the mortgage, the furnishings and general equipment, together with the maintenance of a large charity department, made an expense account which the income, derived from pay-patients, was quite inadequate to meet. There was no endowment, nor any large cash donations for the Hospital's support, and it was a foregone conclusion that it must close its doors.

It was then decided to separate the Medical College from the Hospital, and the reorganization took effect through the incorporation of the Minnesota Hospital College, bearing date July 13, 1885. It was deemed desirable to keep as nearly as possible, the name of the parent college, and this was accomplished by merely changing the order of the compound word, College Hospital to Hospital College. The incorporators were, John Vander Horck, Wm. A. Barnes, Chas. H. Hunter, Chas. P. Lovell, Frederick A. Dunsmoor, Ransom L. Stillman.

The new College bought the site on the corner of Ninth avenue S. and Sixth street, and erected a handsome building for its purpose. The building was admirably suited to the new Medical College. It had a spacious amphitheatre, dissecting rooms, chemical and pathological rooms, and a free dispensary.

The proximity of St. Barnabas' Hospital made

it desirable that clinical teaching be established there. There was no operating-room in the Hospital at that time, however, and Dr. Hunter and myself, at our own expense, built the first operating-room in the St. Barnabas Hospital, conditioned on being allowed clinical teaching in that institution.

The College was immediately well patronized and as many students came as could be accommodated in the building. The financial affairs of the Institution were well managed. One of the conditions of securing the lay members of the Board of Directors to manage the business affairs of the College, was there should be no debt whatever incurred by the incorporation. As guarantors, Dr. Hunter and myself were frequently called upon to advance funds for the treasury, taking stock in the corporation for such advances, and consequently owning the majority of the stock at the time of its merger with the St. Paul Medical College, to form the Medical Department of the State University.

The University of Minnesota had at that time no teaching faculty, but appointed an examining board and was ready to confer the degree of M. B. on candidates who took instruction in the Minnesota Hospital College or the St. Paul Medical College. Its Secretary, Dr. Perry H. Millard, was very solicitous in this matter, and at his urgent request a few of the graduates applied for and received a diploma from the State University. After repeated overtures from Dr. Millard, the two faculties and the owners of the Minnesota Hospital College and the St. Paul Medical College agreed to suspend the operations of each College, and to unite to form the Medical Department of the State University, each College giving free use of its buildings to the University, and the members of each faculty donating their services as teachers until the state should provide means for salaries and for the erection of buildings on the University campus. The formal transfer occurred February 28, 1888. I believe a band of men more loyal to medical education than those who relinquished control of their pet private institutions, without compensation, never taught. They immediately saw the advantage to the profession at large of the opportunities which were offered by the great State of Minnesota.

## The College of Physicians and Surgeons

By J. T. MOORE, M. D.

Formerly Dean of the Minneapolis College of Physicians and Surgeons

After listening to the very able history that we have heard this evening upon the advancement of medical education in the State of Minnesota from its first inception to the present, there is nothing more for me to add than that which pertains to the particular role which was taken by the school with which I was connected, the Minneapolis College of Physicians and Surgeons, and, later, the Department of Medicine of Hamline University.

It may be said of every institution that is organized that there is a reason for its existence. The reason for the organization of this institution at the time of its creation was the condition of medical education which then existed in the state. I do not have much to say about the conditions of medical education which had existed prior to that time and which had ceased to exist, but of those which existed at the time the school was organized.

With but one school in Minneapolis engaged in the teaching of medicine and surgery, and that having practically, if memory serves me correctly, but two sessions, of four and a half months each, and for the purpose of forcing a higher standard of medical education, the Minneapolis College of Physicians and Surgeons, in October, 1883, opened its doors, with a three years' graded course, of six months each, with the requirement of a proper preliminary education and with the conduct of final examinations by the State Board of Medical Examiners or the Department of Medicine of the State University, which was not then a teaching body.

It was a somewhat surprising fact, and I am glad that the main speaker of the evening remembered it, that during its first years it neither examined nor graduated its own students, sending them to the University for examination, and the graduates of that time hold the diploma of the University today. In the third session, the school adopted a different course. It chose men from different sections of the state to conduct the examinations, men who were of noted rank in the profession, who were invited to come to the college for this purpose and who passed upon the fitness of the students to graduate.

At the annual meeting of the Minnesota State Medical Society, on June 17, 1886, I had the



honor to present a resolution to the effect that certified attendance upon a three years' course of medical study, consisting in each year of a six months' session, be required to render students eligible to final examination and graduation in medicine and surgery, such examination to be conducted by the State Board of Medical Examiners, and successful students to be referred back to the board of trustees of the school from which they received their education for the diploma of that school.

A committee was appointed to bring that resolution before the legislature in the following year, and it added clauses governing the entrance to medical practice in Minnesota from schools in other states. The committee worked wisely and well, and although it succeeded in securing the enactment of a law which much modified the resolution, it heralded the dawn of a new day for the medical profession of the state.

In the session of 1887-88 the Minneapolis College of Physicians and Surgeons, entering upon a new era as a result of the new medical practice act, which went into force in July, 1887, increased its preliminary requirements and added new chairs to its curriculum. It now conducted its own examinations and graduated its own students, a change compelled by financial expediency alone.

In 1890-91 the sessions were lengthened to six and a half months.

In the session of 1894-95 the course was lengthened to four years. The school, having outgrown its early quarters, was removed to the Rand House, on Seventh street south. The Good Samaritan Dispensary was inaugurated.

In 1895-96 the college joined the Association of American Medical Colleges, the requirements of which it always duly observed and even far exceeded.

In the following year it became the Department of Medicine of Hamline University; its faculty was increased to forty-one members, its preliminary requirements were raised, and the session was again lengthened to eight months.

In 1897-98 an agreement upon uniform entrance examinations was made with the University of Minnesota.

In 1899-1900 the new building, at the corner of Fifth street and Seventh avenue south, was built and occupied, giving the school largely increased laboratory facilities.

In the next session the college year was again increased to nine months.

In 1905-06 courses covering six years were arranged for the double degrees of M. D. and C. M.

In 1907-08 negotiations were opened for amalgamation of the school with the Department of Medicine of the State University, and the union was consummated, as you know, in March, 1908. We all felt that the time had come when the best work of the school had been done. No apology needs to be made for its existence. I believe it did good work and that it was instrumental, in those early days, in assisting to improve the requirements of medical education in the State of Minnesota.

We have been asked why we did not let go before. We were a good deal like the Irishman who had hold of a live wire: we did not know how to let go. We had property on our hands, of no use for other purposes, and we did not find ourselves in a position to let go. We fully realized that, for the cause of medical education, it should be confined to one institution.

It has been said that private medical colleges were oftentimes commercial enterprises; but, in so far as this school was concerned, it may be said that there were men who worked in this institution until called by death or incapacitated for service; there were others who labored in it from its organization until it closed its doors, a period of twenty-five years, and these men never received one penny of remuneration and sustained a loss of thousands of dollars in time and energy, in order to do their share in uplifting the profession and benefiting medical education. And this was not commercialism.

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## The Merger

By C. A. McCOLLUM, M. D.

Formerly Dean of the Department of Medicine, Hamline University

It is a pleasure to me to add a word to the celebration of this evening. Upon one subject, in relation to the merger of the Hamline School, which I had the honor to represent, we might dwell for a moment only. When the live wire which Dr. Moore spoke of had really run down, it took about three years, in feeling through the different members of our Faculty, before the appropriate time was reached when the thought of amalgamation could be practically realized. I think that the initial credit was due to Dr. Barton, who was Dean of our Faculty at that time, and to Dr. J. E. Moore, Professor of Surgery



in your College, who in an accidental meeting on the cars, between here and St. Louis, had a conversation which proved to be the beginning of the union of these two schools, consummated on the 4th of March, 1908. Upon that date, the last private school in the State of Minnesota ceased to exist.

I sincerely trust and hope there will never be another, for I believe that the future of medical education in this great Northwest demands, as it now has back of it, the sinews of the State and that it has survived the need of private help.

## The Early Days

BY PARKS RITCHIE, M. D.

Professor of Obstetrics, University of Minnesota, and Ex-Dean of the College of Medicine and Surgery

In 1885, when the St. Paul Medical College was reorganized, the President, Dr. Alexander J. Stone, approached me with the statement that all the chairs were filled excepting that of obstetrics, which was at my disposal. As it was Hobson's choice, I accepted and have been identified with the teaching of that department ever since.

I shall never forget the alarm and apprehension I felt in appearing before the class, in the old stone building on upper Third street, to deliver my initial lecture. While I had had a large practical experience, I had never addressed an audience for ten consecutive minutes in my life. I felt that I should exhaust my subject, and incidentally my hearers and myself, in half an hour; but I have been plodding along at it since for twenty-three years.

Professor Arthur J. Gillette was a member of that historic class, and Dr. Wm. Davis, of St. Paul, was my adjunct. Dr. Davis is a graduate of Harvard Medical School and, at that time, was unfamiliar with the crude teaching methods of the "wild and woolly" Northwest. He told me, afterward, that my first lecture was the most interesting and entertaining bit of farce-comedy he had ever listened to!

Compared with our present laboratories, with their corps of trained instructors, our teaching facilities were absurdly inadequate. Gross anatomy was well taught, although shady methods were sometimes necessary to procure material. We had but a smattering of pathology, and bacteriology was an "unknown quantity." Physiology consisted of a series of lectures, dug out with infinite pains from Carpenter and Dalton and other standard authors.

We had an alleged chemical laboratory, consisting of a few bottles, on some shelves, filled with evil-smelling liquids. For some reason or other, our chemist, the only competent teacher in the town, resigned. It became the duty of the President to scour the highways and byways, in search of a substitute professor of chemistry. Dr. Stone, with that sublime faith which moves mountains, sallied forth and finally tagged an unfortunate young medical man. "But, my dear Doctor," said the victim, "I never knew much about chemistry, and I have not looked at a work on chemistry since I left college." The President's sophistical arguments finally overcame his objections, and he consented to appear before the class. I am reliably informed that he lasted about twenty minutes. Because Dr. Stone could talk, with equal fluency, on gynecology, or surgery, or obstetrics, or chemistry, or politics, or mothers' clubs, he assumed that any one else could do the same. Dr. Chas. Wheaton is responsible for the outrageous slander, that the less Dr. Stone knew of a subject the better he could talk about it.

As you have been told, there was in existence at this time, a Medical Faculty of the University of Minnesota. It was an examining, but not a teaching body. Two members of this faculty were notorious as medical politicians.

In the winter of 1886-7, while the legislature was in session, I was glancing one evening over the columns of the newspaper, casually noting some of the proposed legislative acts, which are published prior to being placed upon their final passage, and was startled to see one entitled, "An Act for the Regulation of Medical Colleges."

The feature most important to us, was the requirement that all medical students who were candidates for the degree of M. D., must pass a satisfactory examination before this University Medical Faculty. The purpose of the promoters, and the results which would have followed the passage of this act, were obvious to anyone. The St. Paul Medical College and the Minnesota Hospital College would have been blotted from the face of the earth.

We gathered our cohorts together and sought the man we believed to be responsible. He denied the authorship of the bill, and referred us to his colleague on the University Faculty. He, in turn, declared, with great emphasis, that he knew nothing whatever about the affair. We returned to number one and informed him that his wicked partner entered the plea of not guilty. After relieving his system of a picturesque and

variegated assortment of unparliamentary language, he threw up both hands and said: "Gentlemen, what do you want?" We said: "Strike it from the calendar"; and it was stricken. The two colleges survived, and a year or two later, largely owing to the efforts of this same individual, were united in wedlock, and this superb College of Medicine and Surgery of the University of Minnesota is the offspring.

## Relation of the Board of Regents to the Medical College

BY HON. JOHN LIND

Ex-Governor of Minnesota and President of the Board of Regents

It is a consolation to me tonight to know that the time for speeches or addresses is limited to five minutes. The Board of Regents has had an exceedingly long day of it, an arduous day, and I am really surprised that the President of the University is here tonight. He ought to apologize for having handed his resignation to the Board of Regents this morning, a resignation which we so promptly returned. The man who can commence work at nine o'clock in the morning and be as fresh and strong, as he is, at ten o'clock in the evening, ought not to talk to anybody about resigning. (Applause.)

The subject suggested to me, to which I have not had the time to give the slightest consideration, was the relation of the Board of Regents to the medical college, not to medical education.

The law defines briefly the relation between the Board of Regents and the College. This is the definition of the statute: "The Board of Regents shall enact by-laws for the educational government of the State University and shall elect proper professors, teachers, officers and employes and fix their salaries and terms of office." That is the only section of the statutes, that I am familiar with, that defines the duties of the Board of Regents. They apply equally to all the colleges of the University. Those are the relations as defined by law. The actual relations that have prevailed, during the last biennial period, during a portion of which I have been a member, have been what I should rather call relations of armed neutrality. Unfortunately, or fortunately perhaps, for some of the other colleges, but, unfortunately for the Medical College, the Board of Regents holds the purse-strings and, unfortunately for us and the cause of these relations, is the fact that there is not as much coin below

the string as the medical college would like and as the Board of Regents would be gratified to have. The truth of the matter is that the Board of Regents is to be likened to the picture that I recall in the old fairy tale-book which I had when I was a boy, of the old lady who had one small loaf of bread and a large family of children, the loaf not nearly large enough to go around. We are in that situation. The legislature has become more and more generous, I am glad to say, every year, as the wealth and population and culture of the state have progressed. Nevertheless, the University progress is so rapid that any loaf, apparently large enough one year, becomes too small the next. Our loaf always has been too small and our children, particularly the medical college, have developed the most voracious appetite that it was ever my fortune to watch. We have gratified it, in part, and we hope to be in a position to gratify it more generously hereafter. Mutual relations we can hardly say that we have had, excepting in the last few days, when we have stood them off with recommendations that we are to make, but which did not take any cash. Those we have freely promised; not so freely as they have asked, but more generously perhaps than they had expected from the statement that we had made.

Now, with all the struggles and all the trouble that we have had with the medics, or rather the Faculty—I am not aware that we have had much trouble with the medics so-called—we have had this constant consolation that they have made good—they have shown great results for the generosity of the State. I think they, too, are convinced that the Board of Regents, on the whole, has dealt generously with the College. We have meant that it should receive fair treatment and I hope you will give us credit for that. It is the most difficult task that can be given to any man, to distribute a large amount of money among several colleges, each one presided over by an ambitious Dean, who is anxious to make his department the most renowned and the most efficient in the institution. If he were not actuated by that spirit, we would not want him; and yet the very fact of that spirit, makes our task exceedingly difficult. To distribute the money turned over by the legislature to us, is a difficult task and the Board of Regents hopes that there is a feeling, on the part of all the colleges, that the Board attempts to be fair, means to be fair, and exercises its best judgment at all times.

I have said that we are proud of the medical college. We are proud of all of our colleges. We are more familiar with the progress made in your own college, but I am glad to say that substantially equal progress, or a progress equal in proportion, is made in all the other colleges. I want to suggest to you, however, and if I were speaking to the other colleges I should make the same suggestion, that, while we glory in your growth, and we hope that it will continue and we will do everything to further its continuance, yet, nevertheless, the College of Medicine can never become greater than the University. It, like every college connected with this institution, is most vitally interested, not only in its own success, but in the success of every other college, and, in that absolute co-ordination of all the colleges which is necessary to make this University one united, efficient whole. That is our ambition as a Board of Regents, and in that direction we count upon your co-operation.

We have agreed upon recommendations for the legislature for your College, in particular, but also upon a general recommendation which, perhaps, you may not see referred to in the newspapers. There are outside members of the profession here, and I should like to take this opportunity, if I am not occupying too much time, to mention it to you, so that you may reflect upon it and, if it meets with your approval, co-operate with all of our good citizens, who have your College and the welfare of this institution as a whole, at heart, to help realize it in a new law, if possible, this year. We now receive a tax levy of 23-100 of a mill per annum, which brings the University in about \$200,000, or a little over, this year, and possibly \$225,000 to \$235,000 next year. This tax levy is supplemented by a specific appropriation of \$165,000 for the whole institution, aggregating, in all, about \$400,000. The Board of Regents has instructed me to report to the legislature the recommendation that this specific appropriation of \$165,000 be increased to \$225,000 or, in lieu of the specific appropriation, that the University be given a one-half mill permanent tax levy. This would mean a slight increase upon our specific recommendations for this year; but would mean far more to the University and to your College, in the future—would be, indeed, an event of as great importance as was the consolidation of the several private medical colleges to medical science and to medical erudition in this state. It would mean that the Board of Regents would

have, for all time, a permanent fund, an income not dependent upon the notions of any particular legislature; a condition raising our expectations at one biennial period only to drop them down again the next; instead we would have a certain fund, increasing with the growth of population, with the growth of the tax levy or the wealth of the state, and increasing with the attendance in our colleges. If we had that, we could plan, and carry out and continue our plans; we could save money for the state, we could cooperate with every college and get much more efficient service, with less money, than we do now. I trust that the legislature will agree with us in this matter and make this endowment for the University as a whole. No college will benefit by it more greatly than yours.

I am proud that our College of Medicine has taken the initiative, in not only establishing, at the beginning, a high standard of culture in medical education, but in advancing it all along the line. It was my good fortune to be a member of the Board when one important step was first taken. I do not recall the fact positively, but it is my impression that I offered the resolution requiring two years of academic work for entrance to the medical college. That was thought at the time severe, and undoubtedly would have been. It might have been embarrassing and crippling to the college at that time. So we compromised with one year, and, later on, after I had left the Board, the operation of that even was deferred for another year or two. I know that Dean Ritchie was very apprehensive about that step at the time; not but that he regarded it as a proper ideal, but he was fearful of its immediate effect. I felt sure, at that time, that it was a most essential, a most vital, step for your College to take, in order to secure to it the standing that it now fortunately enjoys.

There are reasons for this, other than cultural reasons, as suggested in the able address of Dr. Beard. This is a sort of a family affair, so I feel free to express my personal appreciation of that masterly address. There is this reason, and it is one which actuates the policy of the Board of Regents in dealing with all the colleges. There are three distinct periods in the educational development of the individual. There is the receptive period, in which he accepts facts and merely learns, in the way in which we acquire language. There is a later period, when the young person not only acquires facts, picks up facts, learns to know facts, but begins to co-



ordinate them. Then there is a still later period, when the individual not only acquires facts, and co-ordinates facts, but when he actually begins to apply them in the doing of original work of his own. I do not think any person should be permitted to undertake any professional work until he has passed what I have termed the co-ordinating period; then he may commence professional work safely, and he should not finish his professional work until he is well along in the period of original work. If we can commence our professional education, with the preliminary work out of the way, when the co-ordinative period has been reached, and carry it into the final or originative period, we shall produce greater professional men.

But with all that we can do,—and I speak now to the faculty,—with all that we can do, our work in this institution will not be complete, until we are in a position to do research work, post-graduate work, and if the legislature will only grant us the modest request that we have made in your behalf, this will be possible. I will not go into the details of possibility, but if we get this request granted, we can do research work. That is the point at which the older colleges are ahead of us. I will make this suggestion. I have been advised so much by these doctors that I am going to give them a little advice tonight. We must have scholarships, and lots of them, before you get rid of me, if I outlive the period of my appointment, which is five years to come. We cannot expect to get them from the state. They must come through private generosity. I am going to suggest, to several institutions in this state, the propriety of donating, not an extensive sum, but a fairly liberal sum, say from six to eight thousand dollars, for the endowment of a particular scholarship. They can designate the scholarship. I think that the medical society of this state, which, judging by its medical history, ought to be among the most renowned in the Union, should be the first institution to endow at least one scholarship for original research. If you should get the first scholarship, it will go down in history with these other great vital acts and facts which we have recorded. I trust this will be done.

I have talked longer than I intended to. I will refer but briefly to the subject matter that I was called upon to discuss. I want to say that while the absolute dominion of the university is in the hands of the Board of Regents, the Board of Regents proposes to exercise its power with discretion and judgment. We are not go-

ing to yield it. We are going to turn over a good deal of it to the College to exercise. While ours is the responsibility to employ the professors and all other employes of the institution, the policy of the Board of Regents will be, as now constituted, a policy more possible than ever it was before, to allow your faculty to designate or suggest the professors and instructors that should be employed. Nevertheless, the Board of Regents will, in the future as in the past, reserve to itself the absolute power to exercise its lay judgment, with all the professional aid that it can obtain, as to the wisdom of any particular change that is to be made. We are responsible to the state, and we propose to spend the state's money to the best advantage.

Now, Ladies and Gentlemen, while I have not had the time to prepare a formal address, as I would have been glad to do, I have to thank you for this opportunity to meet you.

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## The Clinical Needs of the Medical College

By W. J. MAYO, M. D., LL. D.

Regent of the University of Minnesota

I shall not give you the manuscript I had prepared because of the lateness of the hour. I cannot, however, let this occasion go by without referring with pride to the address that has been made this evening by Dr. Beard. I am proud to belong to a profession with such a history, and I am proud to know that the Faculty of the University of Minnesota Medical Department has been able to produce a man that could give us such a history of the past as Dr. Beard has given it to us tonight.

I am the son of a physician, and, living in this state, I was early acquainted, even as a boy, with many of the facts that Dr. Beard has brought out so eloquently this evening, and I want to call your attention to the fact that in those early days we had men who inspired the student as I was inspired, and I should have been glad, tonight, to have seen one, in particular, of those men present, Dr. Charles A. Wheaton, who is unfortunately not able to attend.

In the early days medical education in this state was essentially clinical. You will notice that each of the speakers has told us what they were able to give their students, and has actually laughed at the attempt at instruction, other than clinical, which they could command; but today

we have passed into a different stage, and at the present time, if anything, the laboratory methods have gone beyond the clinical feature, and the clinical interests have dropped behind. There have been many reasons why this is true. We saw among the pictures that were exhibited upon the screen tonight the college, for instance, over in St. Paul, and the one in Minneapolis, and we smiled to see how small and inadequate those buildings were. Yet the classes they taught, and the numbers that they graduated each year, were not essentially, not greatly, different from those which we are dealing with in the Medical Department of the State University. Then where lies the difference between those old colleges, which have proved so inadequate, and the colleges which we find today, which are so expensive to maintain? It is in the fact that today we have scientific knowledge and scientific truths, which we did not have then. In those early times we had comparatively few methods which we could make use of for the entire people of the country. We had antitoxin, we had vaccine; but, comparatively speaking, we had very little. But as time has gone on, and within the memory of us who are forty years or more, we have received new facts and new truths which are so important, which have proved such great gifts to humanity, that they have put the medical profession easily in the lead of all the learned professions. Governor Lind has said that we have made good. We have been able not only to make good, but to make gifts, collectively, to society, to the state and to the nation, that are greater than any others have given, because they have added at least ten years to human life. Therefore we can face these men of the Board of Regents and ask for great things. As Governor Lind has said, we *have* made good.

Among other things, I want to refer to what these two colleges did for the University of Minnesota when they put aside their own financial obligations or assumed them, and turned these two colleges over to the state. Today we have, in this medical department, one of the first seven schools in the country, and it is because of that generous act of these men that we did not begin, as other universities have had to begin, at the bottom. I think we cannot be grateful enough to them for what they have done.

Today, then, we have made good. Take, for instance, the control and practical extinction of yellow fever, which cost this country \$16,000,000 for quarantine, to say nothing of the sanitary

campaign through the South, and the final cost of the war we had with Spain over Cuba, largely induced by the menace of this Cuban scourge. Consider the work done in tuberculosis, in typhoid fever, in all of these different things which have been gifts of the medical profession to this country and the world. When we consider these facts, I say that the Board of Regents is justified in doing what it has done today, in making generous provision for a class of society that has been able to do much for the state and the nation as a whole.

There is one more thing that we want now, that we may not get to its full extent this year; the University clinical hospital is the next thing. We must now be able to extend these gifts from individual to individual. To do this, we must not only make our students know these things thoroughly, but we must enable them to see them face to face.

I want to call your attention to the fact that the Board of Regents has been generous and kind and it has been most sympathetic, and that if we leave the matter secure in their hands, within a few years we shall have a clinical hospital equal to any that any medical institution in the country can show.

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## The Forward Look

By FRANK FAIRCHILD WESBROOK, M. D., C. M.

Dean of the College of Medicine and Surgery and Professor of Pathology and Bacteriology

We have already spent the evening in a review of less than half a century's development in medical education in Minnesota. The chairman of the program committee has asked that not over ten minutes be devoted to the forward look, which should doubtless cover at least a century of future history.

Minnesota's pioneers have shown their mettle in all phases of development, and, as you have seen, her medical men have played their part. Only a hint has been given, however, of the price paid in hard work, self-sacrifice, and unselfish devotion to high ideals. These unselfish men have induced the University authorities to establish laboratories, provide equipment and pay laboratory workers, while they themselves have worked and provided in large measure the materials and places for this teaching, with little in the way of remuneration excepting the satisfaction taken in the accomplishment of their self-imposed task

and the rapid and somewhat remarkable growth of the College. It is only now that provision is being made by the state for the fundamental or clinical work of the College, and that but in small part only.

The state, having been provided, then, with the beginnings of an institution where men may be trained to protect the health and cure the ailments of its citizens, will but do its duty to itself by the continuance and broadening of its policy.

The University authorities have been throughout most encouraging to and considerate of the College of Medicine and Surgery, which has brought to them many difficult problems for solution. The difficulty of making the public see what is, at once, its privilege and its duty, namely, the assurance, to this and succeeding generations, of the best possible medical skill in the service of the people, now confronts them.

Now is the real beginning of the state's medical college, and it becomes necessary to scrutinize the present and the future most carefully in order that we may plan wisely. The same rigid adherence to historical fact that has thus far characterized the evening's program, need not be expected in a forward look. A forward look implies progress and should include a survey of all discernible avenues of progress, and, above all, the maintenance of the highest ideals, the unwavering fixation of the eye upon a definite goal. Our definite goal should be to make our College of the utmost use; first, to the people of the state, and, secondly, to all mankind.

Colleges usually initiate in hospitals, to which laboratory and other teaching and research facilities are later added. Our College has begun, not with the hospital or the patient, but with the means of studying the patient; that is, with the medical laboratories. The hospital facilities must come, however, if we are not to be wholly dependent for our most vital and fundamental needs upon others. Cordial and intimate relationships with other public institutions must be established, so that they may have the benefit of the University's equipment, facilities and men, and the University the opportunity, through them, to teach and to research.

The state herself should realize the opportunity offered by the establishment of the University hospital buildings. This work combines the highest type of charity (the care of the sick poor), with the advancement of that science which is perhaps most directly applicable to the enhancement of man's happiness by the eradica-

tion of disease. The double function of a charity hospital, whether municipal or state, should be appreciated. It should at once provide the best obtainable care for patients, and at the same time add to our present knowledge concerning the detection and elimination of disease. The knowledge of medical science available today should not be allowed to die with its possessors; but, on the contrary, should be added to and passed on to others. How else will coming generations be preserved?

One mechanism at least should be provided by the people for the most careful study of disease and its cure. This the University seeks to do. She should, and doubtless will, receive the support of the entire state, if her policy be that of supplementing existing local forces and encouraging the increase of local efficiency in the treatment of the sick poor, who are always with us. Many cases occur which require special facilities for study, in order that a diagnosis may be established, and even special methods of cure not available in a given locality.

Needless duplication of expensive laboratories, apparatus and men whose skill depends upon their daily engagement in the work for which they have been especially trained, is false economy. Since municipal and county charitable work is usually strained to its limit, the provision of special consulting laboratories, hospitals, dispensaries and other essentials by the state would seem to be the most economical procedure in the beginning. Later, for convenience and the saving of time, there will doubtless be duplication, in part, of such diagnostic and therapeutic machinery, in various localities, which must involve hundreds of thousands of dollars for installation and thousands of dollars for maintenance.

The state's College of Medicine and Surgery should stand in the position of consultant to the various medical practitioners throughout the state. It is possible to create a people's institution in Minnesota which will do more for her citizens than can be done in older communities, where many institutions are already in the field and where ultra-conservatism and precedent are so dominant. Such an institution would require the co-operation of all citizens and would involve tremendous detail and a special teaching hospital. A co-operative association, for the more careful study and record of disease, should be established, with annual membership dues. A schedule, prepared in advance and providing definite dates for the special study of definite



diseases, should be supplied to all the members of the association. Prior to the study period assigned to a particular disease, physicians who may have cases of the kind should notify the office, and the essential correspondence about and scrutiny of the patient should be undertaken. Cases could then be sent or, what is very much better, brought by the physicians to the University. Here would be available the expensive laboratory and hospital machinery necessary to the thorough study of the case.

Physicians who bring or send cases would benefit by active participation in the study, the painstaking and careful record, and, later, the publication of the conditions found and the results obtained. The benefit to the patient of such careful, co-ordinated work needs no comment.

The sending into the field of trained clinical and laboratory observers, to co-operate with the local physician, in diagnosis and treatment, would benefit those cases which cannot be removed, and render possible a study of conditions found at autopsy in fatal cases.

Adequate laboratory and publication facilities are a *sine qua non* for such co-operative work, which would continue the right kind of graduate teaching throughout the year, whilst the benefits, if any, of the "correspondence school" method of instruction could also be fully utilized to help and benefit the physician, which means to help and benefit his patients.

This line of development seems logical, and the application of the principle to all departments of the state's or people's university would provide for the people of the state a means, not otherwise or elsewhere available, by which new methods could be tested, new facts published, new movements initiated and advice and co-operation given to individuals or communities already at work. The University must teach, but in order to do this she must lead and co-operate with investigational and developmental movements; otherwise she is not deserving of public support.

Such a co-operative plan as that outlined for this College is not a departure from the original concept of the physician's function, but rather a return to it.

The American Medical Association, which is the nation's congress of medical men, organized in states and counties, has appointed committees and is spending much money and time in investigating present methods of medical education, with a view to their improvement, and keeps a propagandist in the field, who is con-

stantly at work in investigating the relations of physicians to each other and to other forces in their communities. In many respects, relationships have been illogical and all social forces will doubtless combine to bring about a change.

Already in public health work, skilled medical, biological, economic, statistical, chemical, engineering, bacteriological and other experts are being employed as public servants and their efforts co-ordinated for the public good.

The basic branches of medicine, including clinical microscopy, pathology, physiological chemistry, anatomy, pharmacology and certain other branches, have at present no place in private practice, but are finding their field in public institutions for teaching medicine, or for the study and care of the sick, feeble-minded, deaf, dumb, blind and others of our unfortunate brethren. Their employment, even though limited for a time to these public institutions, will doubtless result, eventually, in the determination of the cause and, in large measure, the relief of the conditions found, and, what is of still more importance, in the prevention of the same conditions in future generations.

The recognition, by the state, of medicine as one of the most important of her economic and developmental forces, cannot but lead to a closer relation of the profession to public work and to a great change in present procedures, whereby a middle position between the present rampant individualism and the tendency to extreme socialism will be reached.

The University is the natural agent of the state in arriving at such a development. The University cannot achieve this unless each citizen is led to feel, definitely, that he has an individual interest in its work, which should not only be to teach certain selected individuals, but to apply, practically, the principles at present known to the betterment of the state and to the individual in his every-day life. Neither the medical nor any other department of the University can hope to avoid this inevitable and obvious combination of work which alone justifies the state in maintaining a university.

In conclusion: Our College sees before it its goal in the increase of man's efficiency and the decrease of his pain and suffering, through the relief and prevention of disease. Combined effort of individual, state, university and college forces is necessary in order to reach that goal. Our forward look throws into prominence certain great needs and duties, a few of which may be mentioned:

1. More hospital and laboratory facilities for the care and study of the sick of the state. This is no new function, since the state has already provided for those of her citizens who are mentally or morally sick, as well as for her defectives.

2. A more careful study of the state's medical and public health problems, and more effectual co-operation between the present and future state institutions and public institutions more local in their function.

3. The diffusion of knowledge which may be acquired by these studies, as well as of that already available, to the state's medical students and to the members of the state's medical profession, and through them to the people.

Amongst the leaders in this onward movement will be those to whom and for whom our university need offer no explanations or apologies,—our alumni.

## MISCELLANY

### A SIMPLE MEANS OF FURNISHING FRESH AIR TO PNEUMONIA PATIENTS

One of our leading Minneapolis physicians (a specialist) calls our attention to a means of supplying fresh air to patients which has frequently been used by Dr. W. E. Hardwood, of the Fabiola Hospital at Eveleth.

Our correspondent speaks of Dr. Harwood as an exceedingly conservative man, and one who is not easily carried away with fads. We give a description of the device as furnished by Dr. Harwood:

"During the winter months I have furnished fresh air to my pneumonia cases by means of a six-inch stovepipe. A piece of sheet iron takes the place of the pane of glass removed from the sash; a hole the size of the pipe is cut in the iron, and the required number of lengths of pipe are added to reach the bedside. A piece of cheesecloth is placed over the end of the pipe to divide the current, and a damper placed in the pipe to regulate the amount.

"If the window has only two panes (one pane to a sash), one of the sashes can be raised or lowered, and a board with the proper-sized hole cut in it takes the place of the sheet-iron for the smaller panes.

"I have satisfactorily treated pneumonia with

fresh air for several years, and have been greatly encouraged by Dr. Northrop's paper read at the Boston meeting of the A. M. A.

"The amount of fresh air obtainable through the pipe is the limit of toleration by the family and neighbors at the present time."

## REPORTS OF SOCIETIES

### HENNEPIN COUNTY SOCIETY

The Society held a mid-monthly meeting on December 2 with forty members present. Dr. E. J. Brown presented a case of xerosis of the conjunctiva.

Dr. J. Harlan Stuart presented a case of lupus vulgaris of the face.

Dr. C. N. Spratt presented a case of a foreign body in the eye.

Dr. E. R. Hare presented a case of skin lesion, progressive in character, following vaccination.

Dr. J. W. Little read a paper on "The Treatment of Diffuse Suppurative Peritonitis." The discussion of this paper was opened by Dr. A. W. Abbott and entered into by Dr. F. A. Dunsmoor, Dr. A. E. Benjamin, Dr. J. F. Corbett, Dr. R. E. Farr and Dr. L. A. Nippert, the discussion being closed by the essayist.

Dr. E. R. Hare and Dr. C. G. Weston gave papers on "The Crile Method of the Direct Transfusion of Blood." The papers were discussed by Drs. F. A. Dunsmoor, A. W. Abbott, J. W. Little, H. L. Ulrich and H. B. Sweetser, the discussion being closed by the essayists.

The annual meeting was held on January 4, with seventy members present.

Dr. F. A. Knights, the retiring president, read the president's annual address.

The following were elected officers for the current year: President, Dr. J. D. Simpson; first vice-president, Dr. J. Frank Corbett; second vice-president, Dr. E. S. Strout; librarian, Dr. J. P. Sedgwick; secretary-treasurer, Dr. C. H. Bradley; executive committee, Drs. A. S. Hamilton and J. W. Bell; delegates, Drs. J. Clark Stewart, H. L. Staples, J. Hvorslef, J. W. Bell, L. S. Nippert, and A. T. Mann; alternates, Drs. L. M. Crafts, E. R. Hare, R. E. Farr, C. A. Read, W. M. Chowning, and G. E. Benson.

The medical defense resolution was referred to the executive committee,

C. H. BRADLEY, M. D., Secretary.

Dr. J. F. Force, retired, resigned his membership.

The following new members were elected: Dr. Alvah J. Stone, Dr. C. L. Tyrrell, and Dr. Frank S. Bissell.

#### THE NICOLLET-LESUEUR COUNTY SOCIETY

The Society held its annual meeting on January 4, with eleven members present.

Dr. J. W. Daniels, of St. Peter, read a paper on "Rheumatism," and F. P. Strathern, of St. Peter, read one on "Sarcoma."

Officers were elected for 1909 as follows: President, Dr. G. W. McIntyre, St. Peter; vice-president, Dr. H. A. Hartung, Le Sueur; secretary, Dr. J. E. Le Clerc, Le Sueur; treasurer, Dr. J. W. Daniels, St. Peter; delegate, Dr. H. S. Tomlinson, St. Peter; alternate delegate, Dr. D. W. McDougall, Le Sueur.

J. E. LE CLERC, M. D., Secretary.

#### BLUE EARTH COUNTY SOCIETY

The annual business meeting of the Society was held on December 28, with nine members present.

No papers were read, the time being given wholly to business.

Officers were elected as follows: President, Dr. A. O. Bjelland, Mankato; vice-president, Dr. H. B. Grimes, Lake Crystal; treasurer, Dr. Lida Osborn, Mankato; secretary, Dr. T. C. Kelley, Mankato; delegate (elected last year for two years), Dr. J. W. Andrews, Mankato; alternate delegate, Dr. John Williams, Lake Crystal.

T. C. KELLEY, M. D., Secretary.

#### LYON-LINCOLN COUNTY SOCIETY

The Society met at Marshall on December 10, with nine members present.

Dr. T. Thorderson read a paper on "Appendicitis;" Dr. C. Persons presented a case of healed fracture of the humerus with fracture of the radius, and Dr. A. D. Hard presented a case of Pott's disease.

The society by unanimous vote favored the proposed change in the medical law, and also instructed the delegate (to be elected) to favor the medical defense resolution.

H. M. WORKMAN, M. D., Secretary.

#### ST. LOUIS COUNTY SOCIETY

The Society met at Duluth on December 22, with forty-five members present.

Mr. John Uno Seberinus kindly invited the

Society to meet at his beautiful home and inspect his model dairy at this time. He took the members out in a chartered car, and, after inspecting the dairy, he banqueted the members, after which the election of officers took place, resulting as follows: President, Dr. C. W. More, Eveleth; first vice-president, Dr. E. W. Tuohy, Duluth; second vice-president, Dr. C. R. Keyes, Duluth; secretary-treasurer, Dr. N. L. Linneman, Duluth; censors, Drs. Magie, Chapman, Stewart; delegates, Drs. Rood, Linneman and Eklund; alternates, Drs. Boyer, Collins and Graham.

Resolutions were drawn up on the death of Dr. Bagley's wife; also on the death of Dr. R. James, of Hibbing.

N. L. LINNEMAN, M. D., Secretary.

#### STEARNS-BENTON COUNTY SOCIETY

The Society met at St. Cloud on December 15, with ten members present.

Dr. J. C. Boehm read a paper on "The Hypodermic Use of Oleum Creosyn Compound."

J. C. BOEHM, M. D., Secretary.

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## NEWS ITEMS

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Dr. T. M. Joyce has located at Church's Ferry, N. D.

Dr. D. C. Rood, of Hibbing, will spend the winter in Florida.

Dr. F. W. McKechnie, of Egan, S. D., has moved to Wasta, S. D.

Dr. Arthur Peak, of Valley City, N. D., is attending clinics in Chicago.

Dr. J. J. McGroaty, a graduate of the State University, has located at Easton.

Drs. W. L. Gauthier and C. A. Meyers, of Hibbing, have dissolved partnership.

Dr. J. J. Mertens, of Lebanon, S. D., is a member of the South Dakota legislature.

Dr. C. H. Lester, of Princeton, has opened a hospital, using his residence temporarily for this purpose.

Dr. W. R. Jung, of Parker's Prairie, was married on Dec. 30 to Miss Bertha Louise Fabian, of Western.

Dr. C. L. Chambers, of Bismarck, N. D., was married last month to Miss Alma Starret, of Detroit, Mich.



Dr. E. J. Hagenbaugh, of Elkhart, Ind., has moved to Rochester and become the partner of Dr. H. H. Witherstine.

Dr. W. B. Hopkins, who has practiced for over thirty years in Cumberland, Wis., is doing post-graduate work in Chicago.

Dr. F. A. Bordwell, of Marmarth, N. D., has been obliged to enlarge his hospital, which was established less than a year ago.

Dr. C. H. Dumas, of Minneapolis, died last month. Dr. Dumas was graduated from the Homeopathic Department of the State University in 1896.

Dr. F. W. Schultz has been appointed Dr. Harwood's assistant in Fabiola Hospital, Eveleth, to fill the place of Dr. Barrett, who went to Gilbert.

Dr. A. Einar Johnson, of White Rock, S. D., has moved to Madison, Minn., and become associated with Drs. Giere & Thrane, who conduct the Ebenezer Hospital of that place.

The state law and medical examining boards were in session in St. Paul last week. There were thirteen candidates for the bar and fourteen for medicine. We are one lap ahead.

Dr. Gilbert Seashore, the new coroner of Hennepin county, has appointed the following as his assistants: Drs. R. G. Rome, Carl M. Roan and H. W. Quist, of Minneapolis, and Dr. G. W. Moore, of Hopkins.

It was announced some time ago that Dr. George Schulze, of Owatonna, had gone to Europe for special study, but this was a mistake, and it seems to have misled some of Dr. Schulze's patients.

The meeting of the Western Surgical Association in Minneapolis last month was perhaps the largest and best meeting in the history of the association. Dr. Arthur T. Mann, of Minneapolis, was re-elected secretary-treasurer. The meeting next year will be held at Omaha.

The physicians of North Dakota show an activity in their antituberculosis campaign that is characteristic of the way things are done in that state. The legislative committee of the State Medical Association having the matter in charge is in session in Grand Forks today, and they will adopt a program of action.

The pastor of the Park Congregational Church of St. Paul is discussing with his congregation the subject of mental healing. Drs.

C. E. Riggs and A. W. Dunning, of St. Paul, were recently asked to present the physician's view of the subject, and they did so. As a rule, ministers do not seem to care for this side of the subject.

#### AUTOMOBILE FOR SALE

A 1908 Mitchell runabout; practically new; top and glass front; 10-inch Rushmore headlights and side and tail lights; gas tank; storage battery; French horn; 1 extra tire and other extras. Cost, \$1,365; will sell for \$1,050. Guaranteed in fine condition. Address Dr. Schefeik, 501 Masonic Temple, Minneapolis.

#### PRACTICE FOR SALE

I desire to sell or lease, unopposed location in Minnesota; good rich territory; Germans, Scandinavians and Americans; three hours' ride to Twin Cities; town of about 400, centrally located; an ideal place for any doctor who can attend to general practice; English spoken generally; good graded school and churches. A doctor, young or old, who can also buy drug-store and stock, (\$3,000 deal, cash and time), can make money. Satisfactory reasons for selling. If you want such, address R. N., care of this office.

#### PRACTICE FOR SALE

\$3,600 will buy general practice in good live S. D. town; splendid field; nearest doctor 40 miles in one direction, 15 and 10 on other sides; one other doctor in town, kind of competitor you want. Fees the highest: \$1 a mile and obstetric cases \$15 to \$25. Collections 95 per cent. or better. Population German and Scandinavian. Will turn over practice to successor who will buy my residence (\$1,500) and office (\$350) located next door to drug-store. Unusual opportunity for live man. Act at once, and don't answer if you can't buy residence. Reason for selling: Going in with surgeon in city. Address, J. W., care of this office.

#### LOCATION OFFERED

Well-established practice in one of the most prosperous of the medium-sized cities in the best section of Minnesota, averaging over \$3,800 per year for the past several years and can be increased; practically all collected and collectible, will be resigned to a regular physician who will purchase my entire office outfit and a few other personal effects for \$800 cash.

I wish to change to a large city to practice my specialty. Possession given May next. Address C. W., care of this office.

#### PRACTICE FOR EXCHANGE

A physician in Idaho, with a practice worth \$5,000 a year, desires to exchange for a practice in Minnesota equally as good. Best of reasons for leaving present location. Address K. M., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Doctor*—If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797. Post-Graduate Medical Dept., Tulane University of Louisiana.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## THE INTEREST OF THE PHYSICIAN IN THE MEDICAL INSTITUTIONS OF THE STATE\*

PRESIDENT'S ADDRESS

By L. C. MEAD, M. D.

YANKTON, S. D.

In selecting this topic for the annual address to the physicians of South Dakota I regret to be obliged to admit that the criticism, that it is hackneyed, is just. A purely medical topic might have appeared more timely, but as we are still in the midst of a struggle, and are struggling more or less blindly, perhaps it may be wise for us to occasionally stop and, in the language of the immortal Texan (I think he was a Texan), see "where we are at." In any event, I hope that it will not be regarded as wholly *mal à propos*.

All will probably agree that the education and occupation of the physician are such as to make it practically impossible for him not to take an active interest in matters pertaining to the public welfare; but this interest will be especially acute in every policy of the state involving, directly or indirectly, his profession. By the state's medical institutions I mean all her laws pertaining to the public health, hygiene, and sanitation—her laws requiring the collection of vital statistics, forbidding the sale of impure or adulterated food or drugs, and the means taken to prevent the spread of contagious diseases; the laws regulating the practice of medicine and all precedents pertaining thereto established by the officials; last, and per-

haps least, the methods of control and the care given in those establishments where the defectives and unfortunates of the state are confined, as the State Hospital, School for Feeble-Minded, State Penitentiary, etc. I am including the latter institution advisedly, for I am fully convinced that in the vast majority of cases, if not in all, the criminal is a proper subject for the study of the psychopathologist, and the custom of relegating him and his care to the tender mercies of the politician will some day be abandoned, and, once abandoned, will quickly come to be regarded as one of the barbarisms of modern times.

I do not wish to create any unnecessary alarm on the part of my hearers by permitting them to infer that they must listen to a discussion of all of the subjects enumerated above, for such an attempt would be far beyond the proper limits of a paper of this character. The matter will therefore be considered in a most general way, especial attention being given to a few subjects only.

At the outset it may be denied that the physician has any legitimate interest in the matters enumerated above beyond the interest of all good citizens, and that he should have no special influence in determining the character of the medical institutions of his state. To this I will say that by virtue of his study he has such an inter-

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.

est, whether he wills it or not, and by virtue of his attainments he has such an influence, whether he wills so or not: and this fact ends the controversy. It is pertinent, however, to inquire whether his interest is all that it should be and whether his influence dominates, directs, or controls as it should. If not, why?

It is impossible to highly develop a class along any special line without at the same time developing in them a special interest in the attitude of the public at large toward their art, and I take it that the best interests of the public are usually subserved when it yields in public affairs to the guidance of that educated class in matters pertaining to their craft. City ordinances pertaining to water-works, sewage system, grades, bridges, etc., must almost necessarily have their origin in the educated mind of the civil engineer. A city would hardly undertake the installation of a municipal water system except it was done under an engineer's direction. The federal government does not follow the ideas of farmers in the erection of its buildings for federal uses all over the land, but it follows, with great exactness, the lines drawn by its architects. We may surely insist that, with equal propriety and to as great a degree, the physician should influence the laws for the prevention of the spread of contagious diseases, the collection of vital statistics, regulating the practice of medicine and the medical care given the state's dependents in its public institutions.

To the credit of the public at large I think it is safe to say that in the most of these propositions they are right-minded and show little inclination to go astray. Were the people of this state, for instance, to contemplate the bridging of the Missouri river there would be no danger of the undertaking being given into the inspired guidance of some person whose chastened mind had risen above the contemplation of material things. On the other hand, it must necessarily be done by an engineer who is so grossly material that he will carefully study the physical properties of every element that enters into his structure. He will bring to his aid all sorts of mechanical devices to ascertain the tensile strength of his steel, its elastic limit, its bending moment in his beams and girders. His cement, wood, rock, brick, paint, and everything else must be as thoroughly tested by him so that he *knows* them. It is a matter of public concern, and we demand that the record be made so that *we may know*. Compare the universal attitude in this and kindred matters with the hysteria into which certain newspapers of

this state have worked themselves over a pure-food law, requiring the printing of the formula on packages containing patent medicines, and the agony they express because the people of the state are going to be deprived thereby of the good, old, tried, and true family remedies, as though the value of the remedy depended upon its composition being unknown and as though if it were possessed of real merit it would be driven from the confines of the state by being known. Rather remarkable this attitude of the press, or, more properly, certain newspapers, for, be it remembered, not all are taking such a position. There are also some excellent reasons for believing that the editors of those who do are not depending on these time-tried, old, and approved family remedies to maintain their health or the health of their families.

Again: if our bridge is built under state or federal auspices, I am inclined to think that some very impertinent questions would be asked of the directing engineers, such as, Are you a graduate of any school of engineering? Are you prepared to test the material you are to use? Can you estimate accurately the strength of the mechanical and chemical bonds that will be made? Can you calculate and provide against the wind-strains and water-pressure to which it will be subjected? Do you know how to safeguard your structure against the devastations of corrosion or electrolysis? Satisfactory assurance on these and many other subjects would be insisted upon; and, if undertaken by a man of experience and substantial professional attainments, we know the structure erected would probably be safe and enduring. Suppose, on the other hand, that to these interrogatories the proposed builder replied, "No, I have never studied engineering; the old schools of engineering are bigoted, dogmatic, and out of date; they are behind the times and they want to monopolize the bridge-building business, and so they are trying to get a law enacted requiring a man who bridges the Missouri river to be an engineer in good standing. They are trying to build up a Chinese wall about the state for the protection of the engineers. On the other hand, I have a special process or system of my own by which I double the tensile strength of my steel and make it immune against fatigue, corrosion, and electrolysis. My bridge can span twice the space, carry twice the load, last twice as long as the bridges designed by the old fogies, and they are just simply trying to legislate me out of the field and deprive the state of the benefit of my system. My system is a secret one, and I do not



propose to give anyone the benefit of my years of contemplation."

Do you think that after replies like that there would be any danger whatever of such an aspirant being entrusted with the job? And yet it is exactly the argument that has stood in the way of the interests of the people in good, efficient legislation for years. There are those who say to you: "Don't let any man build this bridge who is not learned in the profession of engineering. The science is not perfected, but we must have the benefit of the best knowledge there is. The engineers are making their demands only for the protection of those who must cross that bridge." Likewise, there are those who say: "Do not let any man practice medicine who is not learned in the science of medicine. It is as necessary for the physician to be learned in his profession as it is for the engineer. He should know the normal human body in all its parts and the functions as the engineer should know his materials and their limitations. It is as necessary for him to know the causes and symptoms of diseases as it is for the engineer to understand the stresses and deteriorations and destructive agencies that menace the bridge, and we submit that the interest of both is for the general welfare, that their advice is given disinterestedly and should be always heeded."

I believe the experience of every man here will bear me out in the statement when I say that no other calling or profession offers a greater opportunity for fraud, deception, and dishonesty than the practice of medicine. To no other profession or calling are there more conditions presented that appeal to the man's noblest instincts, his kindest impulses, his most exalted ideals. It follows therefore as a corollary that the profession and practice of medicine develop the most exalted and the most contemptible characters. It develops the plodding, kindly, unfailing, tireless friend, the family physician, who has never yet been over-extolled. It develops the genius that has driven disease and pestilence from miasmatic swamp and death-infected cities. It develops the hero who looks death in the face without flinching. On the other hand, it develops the greedy, self-seeking charlatan, whose moral debasement defies description. He may be with or without professional attainments, but his all-pervading, ever-present characteristic is his dishonesty. Naturally enough, the two classes are quickly separated and to a degree that is not only antagonistic but antipodal. Could you excuse the worthy man if he failed to urge that he who

practices the healing art be not only learned in medicine, but that he practice it honestly? That physician is unworthy who does not comprehend and feel intensely the importance of the whole matter, not because it affects him personally in any degree, for it does not, but because it is right and it is the duty of every one of us, and of this Association in particular, to set our faces steadfastly toward the right and falter not, come weal or woe.

But what can be done to the end that ultimately the practice of medicine will be freed from the evils of ignorance, dishonesty, and crime, which, either separately or in various combinations, constitute what is ordinarily called quackery? As long as the human race is gullible the ignorant and gullible element in it will be preyed upon by the more shrewd and vicious, and quackery will flourish till repressed by efficient legislation, therefore this Association should see to it that it never happens that a legislature convenes whose acts are not subject to the constant vigilance of the watchful committee on public policy: for it will probably never happen that a legislature will ever convene in this state without measures of the greatest importance to the public, from a medical point of view, being proposed. The committee on public policy should be there at the proper time and in a proper way to make their arguments and appeals to the proper legislative committee. Neither they nor individual members of the Association should degenerate into medical lobbyists, for the lobbyist is at least lacking in dignity, and before the bar of public opinion the profession must not abate its dignity. In matters of legislation they will have a guide and mentor of almost never-failing wisdom.—The Committee on Public Policy of the American Medical Association.

In all matters pertaining to the preservation of the public health, we should be the first to organize, and, if legislation is needed, the first to propose it. Possibly I shall not be transgressing if I allude to one such movement which I have every reason to believe will be presented to you at this meeting, and I would bespeak for it your most considerate attention. I allude to an organization for the prevention of the spread of tuberculosis. But far more important than anything that can be done by this or any allied organizations, is the work that can be done by the individual. It is at home in the sphere of the immediate influence of the man that his efforts are of the most avail, and here we realize that the "richest treasure modern times afford is spot-

less reputation." The physician of substantial attainments and blameless life need not look to his affiliations with any party or any church or any lodge for his influence. Quietly, from all parties, from all churches, from all lodges, his clientele will gather to his support; his influence in shaping the affairs locally will be the determining one; and his opportunities for exerting an influence of a most far-reaching character will be more frequent than he imagines. It would not cost much of an effort to have every member of the next legislative assembly carefully interviewed by the physician or physicians who can get closest to him, and arguments can be made and clinched at home and in a far more forceful way than can be done after the legislator has gone to the state capitol and has become absorbed in the multitude of complex problems that will confront him. The family physician can convince him, usually, I believe, with the utmost

ease, that the legislation proposed, or opposed, is in the interests of humanity at large and that in it there is neither self-seeking nor desire for aggrandizement on the part of the medical profession. Better this, by far, than any of the skillful but unknown lobbyists at the capitol.

But to accomplish much we must be thoroughly organized. Without organization no success, but with efficient organization I do not believe that there is any important reform that we may not bring about.

The interest of the physician in the medical institutions of the state is the state's most important safeguard against some of the most serious calamities that can befall it, and it should be kept alive with all the pious care that the vestal virgins kept the sacred flames from dying on their altars,—a task for the sincerest men of one of the noblest professions.

## PAPILLARY SYNOVITIS\*

By C. J. RINGNELL, M. D.

MINNEAPOLIS

The enlargement of the synovial fringes is not at all uncommon, and is frequently the primary cause of obstinate cases of chronic synovitis with effusion. The change in the synovial membrane varies from the hypertrophy of a few fringes—generally at the point where the synovial membrane joins the cartilage—to an almost universal papillomatous condition of the surface. If one of the fringes be floated in water it presents an appearance exactly resembling that of seaweed. A microscopical examination of the fringes shows that they consist simply of fibrous tissue with loops of blood-vessels, without any marked signs of inflammation, unless they have been repeatedly nipped between the articular ends, in which case they become swollen and inflamed. In some cases, however, there is a marked deposit in the fringes. The bodies which the tuft-ends inclose are occasionally merely lipomatous. The fat, kept warm in the joint-cavity, has the consistency of oil. The bodies themselves, if extracted during life, look like oil-drops enclosed in a translucent capsule,—indeed, this is really what they are,—but exposed to the cooler air, the fat consolidates, and the little bodies harden slightly. There may be hundreds of such in a single joint,

varying in size from a mustard seed to that of a currant. Closely connected with this condition, is the presence of innumerable small, almost transparent, floating motes, looking like pieces of jelly. They are formed by pullulation of the secondary sacculi of the fringes. Sometimes, however, the fringe-ends contain nodules of cartilage and bone.

This condition is but seldom described, and is not referred to at all in many text-books, probably because it is only in recent years that joints have been opened for exploratory purposes, and the condition verified. It is not, however, nearly so uncommon a cause of pain and effusion into the joint as may be supposed.

The fundamental cause of this condition is still extremely obscure. It is sometimes referred to under inflammatory affections, but it is not at all certain that the disease is really of that nature. By some it is considered to be allied to rheumatoid arthritis, and no doubt the condition is found in many rheumatoid joints; on the other hand, a most extensive papillomatous condition of the synovial membranes may be met with without any other sign of rheumatoid change in the joints, or without, as far as present experience goes, that condition supervening later. The affection is very commonly multiple, and may in-

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



volve several joints. Those most frequently attacked are the knee and the ankle, and the result is not only persistent effusion of fluid into the joint, but also frequent attacks of sudden disability, which closely resemble those caused by loose cartilages, and which are due to the nipping of the fringes between the ends of the bones.

If the case is seen early, before any great amount of effusion has taken place, the synovial fringes can frequently be detected by placing two or three finger-tips on the part of the synovial membrane, which is superficial as well as considerably distended, making sufficient deep pressure to bring its inner surface in contact with the underlying bone, and then to move the whole mass of soft parts up and down upon the hard substratum. Under such manipulation hypertrophied fringes, roughening the inner synovial surface, impart to the hand a rustling sensation, which, if terms applicable to the ear as descriptive of tactile impressions are used, may be called a *bruit parcheminié*. It may be compared to the sensation produced by rubbing between the fingers two surfaces of a silk ribbon. In some cases, if the joint be superficial, grains or knots, movable within certain limits, may be made out. These are the nodules of enlarged fringes. But if the joint be much distended, it becomes impossible to press the synovial membrane sufficiently against the bone to produce the silken crepitus; hence inability to procure such evidence must not cause us to conclude on the absence of enlarged fringes. Before any judgment on this point can be formed, the cavity must be emptied, partially or entirely, when the silken crepitus, previously absent, will, if the villi be hypertrophied, appear.

The evacuated fluid should also be utilized to assist our judgment. The presence of melon-seed bodies, a very thick fluid, and detached nodules indicate considerable changes.

Schuchardt, who investigated the subject, gives the following as the most frequent seats of proliferation in the shoulder- and knee-joints: In the shoulder the fringes occur mostly around the scapular articular surface in the bicipital groove, and in the neighborhood of the anatomical neck of the humerus; in the knee they surround the patella and are present at the reflection of the synovial membrane and in the suprapatellar pouch,—and also in connection with the ligamentum mucosum.

The treatment is, unfortunately, very difficult, and a uniformly good result cannot be obtained. Should the trouble be limited to one joint, it is clear that the most promising measure is the

radical one of dissecting away the whole of the affected area of the synovial membrane, and, wherever this dissection does not involve removal of the entire synovial membrane, most excellent results will be obtained, particularly in the knee. Should the entire synovial membrane be involved, it will be necessary to dissect it away, and, as a result there will be considerable restriction of movement in the joint. When only one joint is affected this should be done without hesitation, as this disease completely cripples the patient, and a painless, though somewhat stiff joint, is preferable to one so painful that the patient cannot use it.

#### CASES

CASE No. 1.—C. G., 28 years old, single, Norwegian, carpenter. Family and personal history, good.

While attending a dance in November, 1907, he noticed that there was a slight stiffness of the left knee-joint, which came on without any history of injury, but there was no pain associated with the stiffness. Four days later, while working at his trade as a carpenter, he suddenly twisted the left leg and immediately noticed a sharp pain shooting through the joint. After this there was considerable pain when walking, and about one week later he thought he felt a loose body within the joint. This condition gradually grew worse; his general health, however, remained good.

The treatment which he received consisted of salicylates, local applications, tonics, and plaster-of-Paris casts, which gave temporary relief, but after using the knee the condition promptly returned.

He came under our care on May 4, 1908. The patient was well nourished. The lungs, heart, and kidneys were negative. Tuberculin test was also negative. The muscles of the thigh and leg were atrophied, but the circumference of the left knee was one and a half inches more than the right. By palpation, roughness of the synovial membrane, and slight crepitation could be noticed. Movement produced considerable pain.

For three weeks we confined him to the bed, using the Bier treatment. The fluid and pain diminished, only to return after the slightest exercise.

The patient readily consented to an exploration, and on May 30, after having been thoroughly prepared, the joint was laid open freely. The cavity contained about six ounces of a viscid fluid and a number of gelatinous bodies, varying in size from a melon-seed to that of a lima bean.



The synovial membrane, above and below the patella, was found to be papillomatous, and numerous fringes, up to an inch in length and attached mostly around the patella, were floating about in the cavity. These were clipped off, and the synovial membrane dissected away in patches. The bleeding was quite smart for a few minutes, but irrigation with a hot 1-8,000 bichloride solution soon checked it. A cigarette-drain, half an inch in diameter, was introduced at the lower border of the wound, and was removed on the fourth day.

The wound healed by first intention. Slight movement and massage were commenced on the tenth day; the patient began to be up in two weeks, and left the hospital July 1, 1908.

CASE No. 2.—N. L., 44 years old, Swedish, married, furniture polisher. Family history, good. The patient has had asthma for many years, and his general health has not been the very best for some time.

In November, 1903, he began to complain of a slight pain in the left shoulder-joint, which was most noticeable in the morning on arising, but gradually disappeared after exercise. This rheumatoid condition continued, without treatment, until the first part of May, 1904, when he noticed a slight swelling of the joint. This was insidious in onset and was not associated with any increase in pain, except when the arm was

put in motion. The swelling increased, and pain began to be more marked; motion was so restricted that he could not put the hand on top of the head.

In July, 1904, he noticed that by moving the arm outward or a push on the shoulder would cause a forward dislocation, which was readily reduced by bringing the arm to the side and moving it to the median line of the body.

The patient had no treatment until September, 1904, when he first came under our care. The joint was distended with fluid and tender. The head of the humerus could be dislocated anteriorly and put back in place at will. About twelve ounces of a dark-brown fluid was removed by aspiration, but in a few days the cavity had filled again as before. The joint was then opened. The whole cavity seemed to be filled with hypertrophied fringes, but, as the bleeding was quite profuse, it was impossible to find their exact attachment. Nearly all of the synovial membrane was dissected away. The head of the humerus, being partly destroyed, was resected at the surgical neck. The cavity was washed with a 1-8,000 hot bichloride solution, and a drain left in place for about ten days.

Both of these patients have now useful joints, are able to work, and appear to be completely relieved of this trouble.

## RECTAL ANESTHESIA: DEMONSTRATION OF APPARATUS, WITH REPORT OF ADDITIONAL CASES\*

BY CHARLES F. DENNY, M. D. AND L. S. B. ROBINSON, M. D.

ST. PAUL

The apparatus shown is that of Dr. J. H. Cunningham, Jr., Boston, and the description is taken from his article.

*Technic.*—First, the bowels should be thoroughly cleansed. To do this, give two ounces of saturated solution of magnesium sulphate on the evening before the operation. The following morning a copious soap suds enema, one and a half to two hours before operation, and a second soap enema of small amount are given about thirty minutes before the time of operation. Give an ether breakfast of two ounces of beef tea.

Apparatus:

(a) Bottle, seven and one-half by five inches for ether, allowing two and one-half inches for ether space, and the neck for vapor space. The diameter is four inches. The capacity of ether space holding twenty-nine ounces, so that a large amount of ether may be used without materially lowering the ether column.

(b) An afferent tube leads to the bottom of the ether column, ending in the bulb with several small perforations, so that the air ascends in small bubbles.

(c) An efferent tube leading to the rectal tube. This should be long, allowing for the movement of the bottle.

\*Read before the Ramsey County Medical Society.

(d) Warm bath-container for holding the ether bottle at from 80° to 90° F. Ether boils at 98.6° F., and the temperature of both is kept below this point, between 80° to 90° F. By keeping the ether below boiling, the air forced into the bulb is more easily saturated.

*Administration.*—Patient on back with sand-bag under thighs, to slightly flex them. A large rubber rectal tube is inserted from 10 to 14 inches into the bowel. Connections are now made with the apparatus, keeping the forefinger in the rectum beside the tube, unless it is painful to the patient. The expulsion of the rectal gases is essential for the absorption of the ether.

After the gases are expelled, ether is forced in by compression of the bulb attached to the afferent tube, every five to ten seconds, or until it is expelled about the rectal tube. At first patients desire to defecate. This passes off, and in one to five minutes the breath is laden with ether odor. Do not allow the jaw to drop down, and let the tongue fall back over the larynx. After narcosis is complete, from two to three squeezes of the bulb a minute will usually be sufficient to maintain anesthesia. An oxygen-tank should be at hand to connect with the rectal tube if narcosis is too deep. Massage of the bowels, to expel ether-gas as much as possible, follows the operation. Cunningham, in his first publication, reported 41 cases with no deaths. From two to eight ounces of ether are used varying with the length of time taken.

Since this was reported he has written me (Dr. Denny) that he has had several hundred cases, and has had no trouble with it. Cunningham's first publication can be found in the Boston Med. & Surg. Journal, April 20, 1905, page 450, where an illustration of the apparatus is shown.

Since the publication of the July, 1908, St. Paul Med. Jour. there has been practical use of this method by myself and Dr. L. S. B. Robinson. In all, we have had ten cases and herewith append brief accounts:

#### CASES

CASE 1.—Miss S. Removal of tuberculous gland of neck. Operator, Dr. Denny; rectal anesthetizer, Dr. Robinson. The patient was a long time in getting under the anesthetic owing to a defect in the apparatus, which was discovered and rectified. Amount of ether used, 120 grammes. Rapid recovery; no nausea; bowels moved naturally on third day. St. Joseph's Hospital.

CASE 2.—Girl, 13 years of age. Cleft-palate. Operator, Dr. O'Brien; rectal anesthetizer, Dr. Denny. Tongue pulled forward by ligature. Patient under the anesthetic in three minutes. Amount of ether used, 250

grammes. Oxygen was connected during the last of the operation. No nausea of account. Bowels moved the next day. Rapid recovery from the ether. St. Joseph's Hospital.

CASE 3.—A woman. Enucleation of the tonsil for sinus. Operator, Dr. Hesselgrave; rectal anesthetizer, Dr. Denny. Patient under the anesthetic in five minutes. Amount of ether used, 200 grammes. Tongue kept pulled forward by ligature. Rapid recovery from ether. Luther Hospital.

CASE 4.—A woman. Goitre. Operator, Dr. Hesselgrave; rectal anesthetizer, Dr. Denny. Under ether in five minutes. Time of operation, nearly three hours. Oxygen used. Amount of ether, 225 grammes. City Hospital.

CASE 5.—Thyroidectomy. Operation by Dr. John Rogers. Rectal anesthesia given by Dr. Robinson. Patient went under the anesthetic with only slight restless movement of legs a couple of times. Operation began at 8:50 A. M. After once under the anesthetic only a few bulbsful in the next twenty minutes. Kept under slightly, so that she moved the legs and arms from time to time until 10:15 A. M. Operation ended at 10:35 A. M. The tube was disconnected and the gas expelled by gentle massage of the abdomen. Unsuccessful attempt to hasten recovery by giving a little oxygen through tube, but expulsive efforts of the patient prevented the flow of gas. Recovery without vomiting, and the patient talked on reaching the ward. Duration, one and three-quarters hours. Ether used, 200 cc.

CASE 6.—Enucleation of the eye. Operation by Dr. Frank Burch; rectal anesthesia given by Dr. Robinson. Patient was not prepared as ordered. Salts given at 7 A. M., followed by enema; bowels not in condition to absorb gas. Ether started at 9:10 A. M., and at 10:53 the patient was not under its effect, and liquid feces coming away. Ether by inhalation for five minutes, then by rectum alone until 11:15, when it was discontinued. The patient was on the verge of vomiting most of the time, but was easily controlled by a couple of squeezes of the bulb. Ether administered one hour and forty-five minutes. Quantity used, 250 cc.

CASE 7.—Left inguinal hernia, varicose pampiniform plexus, appendectomy and hemorrhoids. Operation by Drs. Dennis and Goodrich; rectal anesthetizer, Dr. Robinson. Rectal ether desired by operators in spite of protest that the case was entirely unsuitable. The method was desired because the patient's lungs were tuberculous. The ether was started slowly to avoid griping, at 11:50 A. M. Operation was begun at 12:35 P. M. There was a loss of vapor from leak in apparatus. Tube removed 1:50 P. M. and hemorrhoids operated upon. At frequent intervals during the appendectomy the tube was disconnected, and the distension relieved by gently pressing the abdomen. This caused delay and prolongation of the operation, already long enough by reason of three distinct and different operations being done in succession. Duration of etherization, two hours; quantity used, 200 cc. Slight vomiting before leaving the operating-table. The hope of avoiding irritation of the lungs by rectal administration was disappointed, as the patient developed a double pneumonia, from which recovery followed. How much this was due to the ether or how much to the undue length of operation it is impossible to say, but fairness



to the method plainly shows it was not a proper or suitable case to have been selected. Any anesthesia, "oral," "spinal," or morphine cactin, hyoscine might, with such conditions, have been followed by pneumonia.

CASE 8.—Thyroidectomy. Operation by Drs. Dennis and Goodrich; rectal anesthesia by Dr. Robinson. Ether started at 2:10 P. M.; complete anesthesia, 2:40 P. M. Ether discontinued at 3:40 P. M. Operation was begun at 2:50 P. M. and ended at 3:47 P. M. During the early part of the operation the patient expelled the tube, and before this was discovered the patient came partially out of the ether, and vomited about an ounce. Was in semi-recumbent position; respiration excellent throughout operation. Duration, fifty minutes. Quantity, 235 cc.

CASE 9.—Carcinoma of the tongue; excision. Operation by Dr. Colvin; rectal etherization by Dr. Robinson. Preparation, castor oil on the last evening; two enemata in the morning. Ether started 9:16 A. M.; complete narcosis, 9:42 A. M. Tracheotomy first; excision of tongue at 9:55 A. M. Ether stopped at 10:12 A. M. The patient moved a little during the first few minutes of the operation. The patient had abdominal "cramps" at the beginning of anesthesia. Reacted from ether at 10:50 A. M.; no nausea or vomiting; bowels moved normally on the third day.

CASE 10.—Removal of base of tongue, same patient as Case 9. Operation by Dr. Colvin; rectal anesthesia by Dr. Robinson. Again the patient was prepared with castor oil instead of "salts," and during the beginning of the etherization cramps were severe; the distension was not enough to explain the cause. The patient had been under morphine, and the depth of the narcosis was difficult to determine. During the early part of the operation, breathing stopped, but began again on chest-pressure, and continued good thereafter. Ether started at 10:25 A. M.; complete narcosis at 10:40 A. M. The operation was begun at 10:40 A. M. and finished about 12:20 P. M. Quantity of ether used, 235 cc., including some spilled.

These cases are reported just as they occurred, and the cases where trouble was met in this method, it will be observed, were those in which either the method was contra-indicated or the preparation of the patient was imperfect or faulty. Let me emphasize the fact that those who wish to use this method satisfactorily must realize that it is to be used for proper cases with the proper attention to the details of preparation of the patient, if they wish to appreciate the full value of it.

#### REMARKS

It is not intended for abdominal work within the peritoneum.

It is not intended for rectal work.

It is not desirable for long-continued vaginal work.

It is intended for operation about the head and neck, breast, and surface of the body.

It is a boon to operators in thyroid, mouth,

throat, and any work where the anesthetizer is in the way.

Common sense and good judgment should be used in the selection of the subjects for this form of anesthesia.

If care is exercised in the preparation in a suitable case, salts (Epsom) being given the night before, and followed by soap enemata in the morning before the patient is brought to the table, there will be no trouble from a dirty rectum, which impedes the absorption of the gas, and gives no end of discomfort. There will be no trouble with cramps, as is almost certain where castor oil is used.

For tuberculous lung it is the safest method we have for the use of ether. Case No. 1, Dr. Denny's case, had markedly diseased areas in both lungs. The patient had previously taken ether by the mouth, and after recovery from ether she stated that she preferred rectal anesthesia because "she did not suffocate, or know when she went to sleep."

Patients do not struggle, and for alcoholics it is especially indicated when it can be used, on this account.

Experience with it in the future will lessen the amount of ether used, and the distension of bowel produced by gas. In brief, I can only add: Follow Dr. Cunningham's directions to the letter, and you will thank him, as I do, for a useful method of anesthesia.

#### THE IMMEDIATE VERSUS THE DEFERRED OPERATION FOR EXTRA-UTERINE PREGNANCY

Arnold Sturmdorf, of New York, gives his opinion, based on forty-three cases operated on, that the quicker a patient with extrauterine pregnancy is operated on the better. Many lives are lost by delay. It is claimed that not abdominal hemorrhage, but operative shock is responsible for the mortality. The author knows of no operation for shock. The absence of visible spurt-ing is due to hypotension and dilatation of the abdominal veins, the uterus and tubes being drawn out into the incision and angles caused in the ovarian arteries. The fact that dogs do not bleed to death should not be applied to women, who do bleed to death frequently. Every active therapeutic measure should be directed against the etiological factor which is the ectopic pregnancy. The contributory and fatal factor is the ruptured vessels, which should be promptly ligated.—Medical Record, January 16, 1909.



# MISTAKES IN DIAGNOSIS IN THE UPPER ABDOMEN\*

BY JAMES E. MOORE, M. D.

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MINNEAPOLIS

In this brief paper no effort is made to elucidate obscure or moot points in diagnosis, but the intention is to point out some common errors that can and should be avoided.

It will require long and careful study and observation to make the early diagnosis of cancer of the stomach possible, and our diagnostic methods of pancreatitis and of some obscure cases of gastric and duodenal ulcer, are far from perfect, but it is not possible for us to clear them up at the present time.

The principal reason for mistakes in diagnosis in this region, as well as in all other parts of the body, is lack of careful and systematic examination. There are two special reasons why mistakes are more common in the upper than in the lower abdomen: first, palpation is not nearly so satisfactory in the upper region, for want of the facilities for bimanual examination afforded by the rectum and vagina below; secondly, the surgery of the upper abdomen is of more recent development than that of the lower, and it requires time to develop diagnostic methods, as well as to come to a thorough understanding of the pathology of a part. It took several centuries to develop the diagnosis and pathology of appendicitis, notwithstanding the fact that post-mortems were being made. The older men present can readily recall the numerous discussions we had over pelvic cellulitis and hematocele before we learned about salpingitis and ectopic pregnancy.

My attention was called particularly to the subject of this paper by my experience in the following case, which came under observation recently.

An unmarried woman, twenty-four years of age, came to me complaining of "pain all over her abdomen" accompanied by nausea and vomiting. She located the severest pain in the epigastrium and gave a history of abdominal crises extending over two or three years. When I had gotten her in position on the table for examination and uncovered her abdomen, I found two scars, one in the right iliac region and the other over the upper end of the right rectus. She then stated that she had first had her appendix

removed, but, this failing to relieve her suffering, she was operated upon for gall-stones, and no gall-stones were found. It required only a brief, careful examination to demonstrate that she had ptosis of all the organs of the upper abdomen, to which her crises were doubtless due. To make the examination complete a finger was passed into the vagina. The cervix felt quite soft, and, remembering her complaint of nausea, I inquired if she had menstruated regularly, and she stated that she had. Upon further examination the uterus was found to be evenly enlarged and the vagina to be of a deep-blue color. In answer to the direct question if it was not possible for her to be pregnant, she replied, "Oh, no, I am not married." I then stated positively to her that she was pregnant, when she naively remarked: "Well, I guess I had better get married."

It is very evident that in this case two mistakes had already been made, and that had I been content with the diagnosis of splanchnoptosis and failed to make a systematic and thorough examination I should have failed to recognize the most important condition obtaining at that time.

This case also illustrates another common cause of mistakes in diagnosis, that is, a false history given by the patient. It is difficult to understand the workings of this girl's mind, for she evidently wanted to know whether she was pregnant or not, and yet tried in every way to mislead me by giving a false history.

In every case presented for diagnosis of conditions in the upper abdomen in which ptosis of the organs is found, it should be remembered that the patient may be neurasthenic, when the history is very likely to be unreliable. When this condition of splanchnoptosis is accompanied by a pronounced neurasthenia the average practitioner of today readily recognizes it, but these patients are not all neurasthenics when they ask for relief from suffering. Many of them are filling their places in life and have the appearance of perfect health, and it is among this class that errors of diagnosis are the most common. It is a frequent experience with me to have these patients present themselves after having had one operation, and sometimes a series of operations,

\*Read before the Western Surgical and Gynecological Society, Minneapolis, Dec. 30, 1908.

performed upon mistaken diagnosis. Without going back so very far I can readily recall mistakes of my own along this line. Every patient and especially every female, complaining of suffering in the upper abdomen should be most carefully examined to determine the presence or absence of this condition, for it is very common, and when present is liable either to give rise to a train of misleading symptoms or to mask the symptoms of other pathologic conditions present. Many patients suffering from splanchnoptosis have been operated upon for gall-stones, the diagnosis having been based upon a series of abdominal crises seemingly pathognomonic of that condition, only to find that no gall-stones were present and that the patient had been suffering from Dietl's crises.

While it is not safe to operate upon a patient for gall-stones without first having excluded splanchnoptosis, neither is it safe to conclude that gall-stones are absent when splanchnoptosis is present, for some patients have both, and many patients with splanchnoptosis have a cholecystitis demanding operation. I have operated upon a number of these patients and have very materially improved their condition. When a patient's abdomen is opened who has had symptoms simulating gall-stones, and a blue gall-bladder is found, it is needless to state that the gall-bladder should not be opened; but when it is thickened and white, or of the same color as the stomach, it should be opened and drained. This point is well illustrated by the following brief notes of a case upon which I have been repeatedly in consultation within the past few months.

The patient, a woman about thirty, is quite fleshy and difficult to examine, but a moderate degree of ptosis of the stomach, liver, and kidneys can be demonstrated. When I first saw her she was in bed in the hospital suffering from constant pain and most persistent vomiting. She was unable to retain food and was rapidly losing flesh. My diagnosis was Glenard's disease, and my fear was that she would become an emaciated, bed-ridden neurasthenic. I advised against operation, but her sufferings were so intense that her attendant, after having exhausted every known method of dietetic and medical treatment, operated upon her, hoping to find gastric or duodenal ulcer, gall-stones, or some pathologic condition that could be relieved, but nothing was found and the abdomen was closed. The patient improved enough after this to enable her to leave the hospital, but she was a con-

stant sufferer. Some months later the doctor sent her to my office for examination, and I could make nothing out of her case at that time but Glenard's disease. Last month she returned to the hospital, when I examined her again, but did not encourage operation, although changes enough had taken place in her symptoms by this time to suggest the possibility of new developments. However, at her earnest request her attendant operated again, and this time I was present at the operation. The only pathologic condition found beyond the ptosis before mentioned was a thick-walled gall-bladder of the same color as the stomach. This was opened and found distended with a plug of mucus so dense that it was extracted in one piece. A long tail of the same material was attached to this plug, evidently coming from the cystic duct. No stones were present. The lining of the gall-bladder was covered with a thick, white, fibrinous deposit. The gall-bladder was drained, and the patient, who is still in bed, has been freer from pain than she had been for many months before. While this last operation has been so far very helpful, it is not safe to conclude that the patient will be entirely or permanently relieved, because she had had very severe symptoms before the first operation at which insufficient changes were found to justify the operator, in his judgment, in opening the gall-bladder.

The evidences of splanchnoptosis, or of ptosis of any one or more of the organs, are so positive and so easily obtained that an enumeration of them seems almost superfluous, but the fact remains that many of these patients are being operated upon after a mistaken diagnosis. Every operator is now familiar with the movable kidney, but many fail to grasp the fact that this condition is very frequently accompanied by ptosis of other abdominal organs. In spare persons suffering from splanchnoptosis—and most of them are spare—inspection is very helpful. The upper abdomen is flattened and the lower correspondingly protruding. The abdominal aorta can be seen pulsating in the epigastric region, where, under normal conditions, it would be covered by the stomach, and this terrible throbbing is a very constant source of worry and complaint. Before this condition was recognized this throbbing was spoken of by the older writers as venous pulsation. The liver is much more frequently displaced than is generally understood, and when such a heavy organ becomes unduly movable it is most certain to give rise to symptoms. It should be remembered that, although



a right-sided organ, the liver extends well over toward the left side, or otherwise a left lobe, especially when misplaced, is liable to be mistaken for a tumor. The long extension of the right lobe, or Riedel's lobe, is by no means infrequent and is very liable to lead to errors in diagnosis.

So many of these patients are neurasthenic and so unsatisfactory to operate upon that we are prone to neglect them, but some of them need surgical care, and have no moral right to conclude that a patient who is a neurasthenic is wholly a nervous case until after a most thorough examination and careful diagnosis has been

made, for otherwise we are very liable to overlook some important condition amenable to surgical treatment.

Another condition which has caused many mistaken diagnoses in the upper abdomen is Pott's disease in its early stages when located in the middle or upper dorsal region. I have seen a number of patients who had been operated upon for the various painful diseases occurring in this region whose pain was entirely due to Pott's disease. The early and constant rigidity of the spine, so characteristic of tuberculosis, should be sufficient to prevent these errors when a careful and thorough examination is made.

## TABES DORSALIS\*

BY WILLIAM REID, M. D.

DEERWOOD, MINN.

As the time is limited I shall give as brief a history of the case as possible, and shall give you an opportunity to examine the patient to clear up anything that may not be plain to you.

*History.*—The patient's father is living at 80; his grandfather died at 96; his mother died at 33, following parturition; and of two uncles and aunts he does not know the exact cause of death. One brother died in infancy; he has three brothers in good health, aged respectively 42, 47 and 50 years.

As a child he was healthy, with the exception of the usual diseases of childhood. He was always of a nervous temperament and led an active life.

His trouble began fifteen years ago by his having shooting pains in the soles of his feet on walking; he suffered a good deal of pain in the lower lumbar region, and the muscles of the spine began to get stiff. He continued in this condition until about a year and a half ago, or a little more, when his wife was suddenly stricken with right hemiplegia with entire loss of speech. She was confined to her bed continuously for three months, and most of the nursing was done by our patient himself. He often sat up whole nights without getting any sleep whatever, and, in fact, for two weeks at one period he got very little or no sleep. This is an important point in the history of the case, as he consulted me about three months after his wife's illness began.

His symptoms at that time were ataxia, delayed sensation in the lower limbs below the knees, loss of knee-jerk, slight Argyll-Robertson pupils, and the Romberg well marked. He had some pain in the upper sacral region, but never experienced those lightning pains so much spoken of; but, as he described it very accurately and intelligently, he felt a sensation of shot-like bodies being shot along the muscular planes. He said he felt as though there was sand in the ball-bearings. I thought it was a very apt illustration of his sensations. This point in regard to the unusual absence of shooting pains or lightning pains, and the feeling as though shot were thrown along the muscular planes, is interesting and is a peculiar symptom.

His eyes were not examined at that time for optic atrophy, the viscera were normal. I gave him some tentative treatment, but being discouraged by various authors as to medical treatment, I did not give him much medicine. He has a good home, is well taken care of, and is an intelligent and well-educated man and understands the importance of good hygiene, and therefore he has had simply good care and has been under good general hygienic conditions.

He went along for a year and a half doing his daily work, and now gets around, although with some degree of trouble, but I cannot say he is any worse than he was a year and a half ago.

*Present Condition.*—There is still, as you see, absolute loss of knee-jerk; the Romberg is well marked, and you will notice the ataxic gait

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



in walking; he still shows delayed sensations below the knees; he complains of dizziness and still has that sensation of shooting bodies, but he tells me that he has not felt much of this sensation recently and he thinks he is improving in those symptoms.

His sight is good; the field of vision is not narrowed, but there is slight opacity of the left lens, and recent examination shows slight optic atrophy. The pupils re-act to light and accommodation, so there is now no Argyll-Robertson pupil. There is no muscular atrophy.

His strength is good; he weighs 160 lbs., which is his usual weight; his blood-count is normal; the viscera are normal.

I omitted to say that I can find no history of syphilis in this case.

I wish you to mark the disparity between the optic symptoms and the ataxic symptoms. He is improving in his optic symptoms, but there is no improvement in his ataxic symptoms.

He uses a cane in walking, especially at night, but he says he does not lean upon it to a pressure of half an ounce. The muscular sense from the upper extremities acting through the cerebrum takes the place of the ordinary reflex act, involved in balancing and walking, which reflex he has lost.

Observe how much better he performs the act of turning by the aid of the cane although he does not use it as a support.

He can also get around better when he concentrates his attention and will-power upon the act, but he says he feels this to be a great strain, and complains of feeling very tired after prolonged exercises of this kind.

We can understand this easily, there being no paralysis, voluntary motion is not inhibited, but such motion is slow, yet with proper care and persistent effort on his part, he may be able to re-educate his coördinating centres, so as to be able to get about fairly well.

## THE CUTTING OF CICATRICIAL STRICTURES OF THE ESOPHAGUS THROUGH THE ESOPHAGOSCOPE\*

By WM. LERCHE, M. D.

ST. PAUL

With the exception of cancer, cicatricial stricture is the most frequent organic affection of the esophagus.

The causative factor may be—

Chemical: alkalies, acids, and other corrosives.

Mechanical: foreign bodies, such as tooth-plates, hard bread-crusts, pieces of bone, etc.

Thermic: hot drinks and hot food.

Other less frequent causes are syphilis, peptic ulcer, ulceration following scarlatina, diphtheria, typhoid fever, abscess in the esophageal wall, with subsequent scar-formation (a case of which I have reported in a previous paper), and perforation by affected lymph-nodes in the region of the tracheal bifurcation.

In this country the swallowing of concentrated lye is perhaps responsible for the majority of cases of esophageal strictures of benign nature, and this type will be discussed here.

*Pathology.*—Scar-formation from caustics occurs most frequently at the physiologic constrictions of the esophagus, i. e., at the inlet, in the

region of the tracheal bifurcation and in the hiatus esophagi, although they may be found at any part of the organ.

The shape of the stricture is either linear, valvular, or semilunar, annular and tubular, and may involve only the mucosa and submucosa or include the muscular coats and even the peri-esophageal tissue. The strictures may be single or multiple.

Above a tight stricture in the lower part of the tube a dilatation or diverticulum may form, and the walls may then undergo hypertrophic changes, particularly the circular muscle fibres. The inlet to the stricture and the dilated part above may become inflamed and ulcerated from the stagnation of food. When the walls are thus weakened perforation may either take place spontaneously or be caused by the bougie used for examination or treatment. Adhesions to the peri-esophageal tissue sometimes give rise to kinking or twisting of the tube.

*Symptoms and Diagnosis.*—Dysphagia is the main symptom which directs attention to an obstruction in the esophagus. It may come on

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

gradually, or at once if there is complete occlusion. If the stricture is at the inlet ingesta will be rejected promptly; if it is in the lower part and there is a dilatation above, regurgitation of thick mucus and food may take place some time after eating. Emaciation may be extreme.

In a case to be reported in this paper there was a marked bronchitis with expectoration of purulent material, which I ascribed to the irritation caused by the food entering the air-passage during the frantic effort of the child to swallow it. I also think that this irritation was responsible for the spasm which took place causing a periodic complete occlusion. The history may give a clue to the nature of the stricture. For examination a large-sized bougie is first introduced to determine the site of the obstruction, followed by bougies of smaller calibre, in order to estimate the size of the stricture. By examining with the esophagoscope the nature of the stricture, as well as the condition of the esophagus above, may be determined, and the entrance to the stricture located. If cancer is suspected a small piece of the tissue may be removed through the esophagoscope for microscopic examination. Spastic strictures, ulcers, and pressure from without can be excluded by esophagosopic examination. In syphilitic stricture the history and the response to specific treatment will aid. Tuberculosis of the esophagus is rare and can be diagnosed only by removing a piece of the tissue and examining microscopically. In only one case has diagnosis been made in this way (case of H. V. Schrotter, *Beitrage zur Klinik der Tuberkulose*, 1906).

The prognosis depends on the character of the stricture. If it is of the tubular or ring-shaped variety and the scar includes the entire thickness of the esophageal wall, the prognosis is worse than if it is valvular. In children the prognosis is somewhat better than in adults, particularly if the entire circumference of the tube is not involved, because the organ grows.

In one hundred cases of esophageal strictures from caustics tabulated by von Hacker from Billroth's clinic, there were forty-seven deaths. Of these forty-seven cases, twenty-five had been treated by bougie alone, and the cause of death was known in twenty of them. In ten of these latter, perforation was the cause, six of which were due to the bougie and two to foreign bodies. In thirty-four cases of cicatricial strictures that came to post-mortem in the Pathologic-Anatomic Institute in Vienna from 1877 to 1886, death was due to the perforation by the bougie in

ten cases; in six, it was due to perforation from ulceration; the rest of the cases died after operation or from marasmus, inanition, or tuberculosis of the lungs.

#### CASE

C. W. L., aged three years, weight 19 lbs., was brought to me on February 25, 1908.

*History.*—On July 12, 1906, the child picked up a piece of lye from the floor and put it in its mouth. The skin of the lips, chin, and upper chest was burned by the saliva flowing down. The tongue swelled enormously and protruded from the mouth. When the swelling subsided the mouth, tongue, and pharynx were raw. This gradually healed, but one spot at the center of the tongue, the size of a penny, did not heal until four months later. There was great difficulty in swallowing. In the latter part of October spells came on, during which the child could not swallow anything. These spells occurred at intervals of from three to six days and lasted from three to eighteen days, the average being eight days. When the spell was on, the bowels never moved, whether the spell lasted two days or eighteen days. The child was fed on milk exclusively, which it took from a nursing-bottle because if it attempted to drink from a cup the passage was immediately shut off. During the free intervals the child took enormous quantities of milk in this way, to make up for the period of starvation. If it tried to eat any solid food—a piece of bread, no matter how small, or even butter—an attack was precipitated. If exposed to a draught an attack would come on, and not even liquids would be passed. The child was reduced to skin and bone, and death was imminent. Nutrient enemata were now employed, and the child improved somewhat under their use.

Attempts at passing any instrument through the strictures had not met with success.

*Examination.*—Examination shows a very poorly nourished boy. Coughs a great deal. About the center of the tongue is a white scar, and likewise on both anterior pillars of the fauces. On the soft palate is also a large white stellate scar. There is pronounced bronchitis.

Attempts to introduce urethral catheters of any size were futile on account of an obstruction at 10.5 cm. from the incisor teeth.

I measured out a small quantity of water and asked the child to drink it, which it tried very hard to do, but nothing passed. I tried to wash down a silk thread, but without avail.

*Treatment.*—I now bent a glass tube about 12 cm. long to a curve that corresponded to the inlet

of the esophagus (similar to von Hacker's curved tube for the introduction of catgut bougies). Over the glass tube was pulled a snugly-fitting rubber tube with beveled end. The tube was filled with as many of the finest filiform whalebone urethral bougies as would permit of an easy gliding in and out of the instruments. Pushing the tube down to the inlet of the esophagus I succeeded in getting a filiform into the tight stricture. In passing it further down another obstruction was met with at 13 cm. from the incisor teeth. After several attempts, and after having dilated the first one somewhat, I was able to pass a filiform through the second stricture. I then bored a hole through the bulbous end of a fine urethral bougie (Belfast linen) and also opened the other end so that the filiform bougie could go through and guide the linen bougie into the stricture. As sufficiently long filiforms could not be obtained I ran a silk thread through the linen bougie and tied it to the filiform, and by holding on to the thread prevented the latter from being pushed down. After having dilated the second stricture somewhat by passing several filiforms through, I succeeded in getting a No. 9 French bougie in, guided by a filiform. The instrument could now be passed down to 24 cm. from the teeth, but at this distance a third stricture was encountered. After a search with the filiforms the No. 9 passed easily through this last one. The upper two strictures were now dilated by increasing sizes of urethral bougies up to a No. 30 French. The stricture near the cardia, although of somewhat larger lumen at first than the upper two, could not be dilated by bougies to more than No. 12 French. I noticed that the bougies became flattened on the right side after having been through the stricture, and I therefore came to the conclusion that there had formed dense scar-tissue on the right side near the cardia.

This stricture I decided to cut through, and for this purpose I devised a new esophagotome after the same principle as the instruments described by me in a former paper. The blades are made of different sizes and can be pushed into the guard. I also had an 8 mm. esophagoscopic tube made with an obturator provided with a flexible metal spiral tip 10 cm. long. The operation had to be postponed until the instruments were made, but as the child was eating semi-solid food with only occasional trouble and was gaining in weight, this did not matter.

During this period I introduced bougies two

to three times a week. The cough disappeared entirely.

About the middle of May, while eating an orange, the child suddenly became unable to swallow anything, and the severe cough returned. Although I could introduce bougie No. 30 French down to the lower stricture, the child could not swallow any fluid. I introduced a soft catheter and poured milk into the stomach. During this it had a severe fit of coughing and coughed up two small pieces of orange, which it had eaten two days previously. The child could now drink without any difficulty, and the cough ceased.

It may be that a piece of the orange had plugged the stricture near the cardia, causing the total occlusion, but I am inclined to believe that the two little bits coughed up from the air-passages had lodged in the larynx and caused an irritation, which produced a spasm of the upper end of the esophagus.

*Operation.*—On July 12, under chloroform anesthesia, I introduced the esophagoscopic tube with the flexible tips on the obturator, using the Kirstein headlight for illumination. The information gained from the bougie, before mentioned, which was flattened on the right side, proved to be correct, because there was a greyish-white scar, including more than one-half of the circumference of the tube. I made three incisions into this stricture using the one and one-half millimeter blade. After this, bougie No. 18 French could easily be pushed through the stricture. On withdrawing the esophagoscope scar-tissue was seen in the upper end of the organ. Six days later I commenced to introduce bougies and rapidly dilated the lower stricture to a calibre of No. 26 French. The introduction of bougies was kept up from three to six times a week until August, when the family left town for a while.

The child is now in excellent health and weighs forty-one and a quarter pounds, a gain of twenty-two and a quarter pounds, or more than double its weight when treatment was begun. It can eat any kind of food without trouble.

The introduction of bougies will be kept up for months.

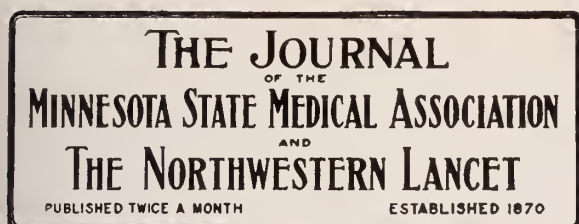
#### REMARKS

In introducing filiform whalebone bougies into the esophagus the utmost care and gentleness must be exercised.

This treatment is particularly suitable to cases of valvular and ring-shaped strictures.

The cutting must be done under the guidance of the eye.





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## MEDICAL LEGISLATION

A number of bills have been introduced into the Minnesota legislature in which medical men should take an active interest. Among the most important ones are those in which the health officers are most concerned. An effort is being made to determine the exact status of the State Board of Health and its authority over streams for their protection against pollution. The time is coming when this will be an absolute necessity, and if it is deferred for many years, it will cost the state an enormous sum of money to cleanse the rivers and streams which are now being polluted. Germany and Massachusetts recognized the situation early, and although it cost millions of dollars to do the work in Germany, it was done. In Massachusetts the same effort is now being made to keep the streams clear and pure for drinking purposes.

Doubtless, someone will suggest that the Mississippi river in Minnesota should be the test-stream in cities, that cities that depend upon it for their water supply; and when one stops to consider the advisability and possibility of keeping the Mississippi river free from pollution, it means the establishment of proper sewage-disposal in many towns on its banks and a new water supply for the City of Minneapolis.

In South Dakota the legislators will be called upon to establish and equip a State Board of

Health. So far, they have had practically no money to deal with health measures, and this year they have asked for \$25,000, which is little enough to begin the work of organization throughout the state. Minnesota will ask for a larger sum, as she has been hampered for years. Dr. McCormack's address before the House of Representatives will probably do much to relieve the State Board of Health from anxiety.

The plan adopted and lived up to in Kentucky is an admirable one, which should be more extensively copied. Every county in Kentucky has its local board of health, composed of the fiscal judge of the county, the county attorney, and three physicians selected by the State Board of Health. This Board has absolute jurisdiction over the county and selects its own health officer, the only officer to receive a salary, and his salary depends upon the wealth and resources of the community. The State Board of Health and the State Board of Examiners are selected by the State Medical Association, and as the two boards are one in Kentucky, it is purely a medical board without the intervention of politics. This Board has authority over all matters pertaining to public health and is in direct touch with each county board of health. The result is, that the State Medical Association is a power in the State of Kentucky. Some question as to the authority of the Board has been raised, and the courts have decided that they have not only demonstrative but legislative power. The result is that no one questions the orders from the State Board of Health. This plan will be considered at a future time for Minnesota, and will be a great step in advance.

The tuberculosis fight is on as usual, and a bill for the appropriation of \$25,000 for the State of Minnesota to stamp out tuberculosis, or to restrict tuberculosis, has already been introduced.

A bill to suppress obscene and quack advertising in the newspapers has been introduced, and has been passed upon favorably by the committee on public health. There will probably be some opposition to it from some of the newspapers, but, on the whole, it is hoped that the newspapers will not object, even though it cuts them off of a little advertising. The protection of the unfortunates and the suppression of vice will amply justify the discontinuance of these vicious advertisements.

The regents of the University have asked for large appropriations for the erection of new medical buildings on the campus, and the pre-

viously secured appropriations for the University Hospital maintenance will probably be increased at this session of the legislature.

### MEDICAL POLITICIANS

The profession of politics is as honorable as any profession, and the men who are sound in heart and judgment will always maintain and occupy an enviable place in the political arena.

Men who aspire to good works and good deeds will be recognized as leaders among men in spite of criticism and vocal assassinations. The man who does things and makes no enemies is not a truly strong character.

The just critic may oppose and object to a worthy effort, but, inwardly, he will respect the man. The critic who is unjust and who obstructs the pathway of the worker may succeed for a time, but ultimately the right man wins. Every man makes mistakes and is thereby educated and becomes more cautious in his later efforts. In every profession there are men who are seeking personal advancement, and not infrequently they are led astray by their successes, and, in many instances, these men continue in power, but this does not prevent or discourage the man who has a mission to deliver.

There is no organization, however humble or however great, which is not more or less dominated by politics. The religious gatherings have their leaders who are in truth politicians, but that is no reason why politics should be disbarred by religious or medical organizations. The fault usually lies in the manner or conduct of its politicians and particularly in the indifference of the masses to the policies that are advocated. If any profession needs policies and political workers, it is the medical profession. In former times it was considered undignified for a physician to enter into anything that savored of politics. Today it should be considered a shame for the medical profession to stand on its dignity and refrain from offering advice and not enter into an active contest where medical policies are the basis of educational problems, particularly when the world is waking to the idea that matters concerning the public health should be thoroughly elucidated.

Medical men should be consulted in everything that has to do with medical policies, and, if physicians would take the trouble to push themselves into the political swim and advocate a high standard of citizenship and professional ability, the ward healer in all kinds of politics would soon recognize the value of the physician's

advice. There is still too much struggling for the mere power in office and there are too many cheap doctors who seek personal gain, and until personalities are eliminated the professional medical man in politics will not make the most satisfactory kind of headway.

There are many reasons why doctors should become more expert in the profession of politics, not for themselves, but the policies they stand for as a whole. Think of the institutions or departments in institutions that are controlled by politicians of the common sort, and then contrast these states with what might be if the right men who show the proper interest were the controlling power. Organizations lag when under bad management, but revive when an expert is at its head. The average politician dislikes to admit his inability to cope with any situation, and it is time now for the doctor to assert himself and to demand reforms that are vital to the needs of the human race. To this end politics must be discussed and politicians must be educated to bring them before the law-enacting bodies. Every county, district, and state medical organization should develop a political machine constructed of good, honest material and then bring them to public notice. If such organization were systematized the medical profession could get what it needs by demonstrating the validity of its claims.

The legislature of Minnesota is in session and the time is ripe for some reforms. A bill to abolish quackery of all kinds will be introduced, and every medical society should see that its endorsement reach the proper committee. If the county secretaries would keep this in mind and secure a vote of the members of their societies, the bill would go through. Why not try it this session?

The bill will be very much like the Wisconsin bill, which was printed in the January 1st number of THE JOURNAL-LANCET.

### DR. McCORMACK'S VISIT

During the week beginning January 11th and ending January 15th Dr. McCormack was a very busy man in Minnesota, particularly in the Twin Cities. The first evening he addressed the Ramsey County Medical Society and the profession in St. Paul. On the following morning he talked before the State Board of Health and outlined the work in other states, giving the Board a number of valuable suggestions for future use. On Wednesday morning he addressed the House of



Representatives. An arrangement had been made whereby there was to be a combined session of the House and Senate, but the senators evidently did not feel much inclined to listen to the remarks; however, on the following day when they had heard of his address and the profound impression he made on the House, they extended him a special invitation to address them.

On Tuesday night he addressed a public gathering at the High School in St. Paul, and on Wednesday night he addressed a public gathering in the Unitarian church in Minneapolis under the auspices of the Woman's Club. On Thursday morning he addressed the students in the great chapel of the University, and on Thursday evening he spoke before the Hennepin County Medical Society and the profession of Minneapolis. All of the meetings were well attended, and he was heard by more professions and laymen during this visit than at any previous time.

Those who have listened to Dr. McCormack know that he is an energetic, earnest, and entertaining speaker. His career as a physician and surgeon has evidently been an honorable one, and he is giving the public the benefit of his long experience. His first endeavor is to get the medical men and the public together so that there will be a better understanding between the lay and professional people. He also endeavors to create a feeling of brotherhood and of friendliness between medical men, a thing that has been very much lacking in the profession, although since the beginning of Dr. McCormack's lecture career he has done much to establish closer relations between the doctors. He has a way of saying the right thing in the most kindly spirit, and it is done so nicely that no one can possibly take offense.

The little incidents that he relates, that seemingly occurred in his professional life, have concealed within them a meaning which every doctor should cherish and attempt to follow in the spirit which he means to convey.

He quite encourages the profession in the idea that if the doctors were a unit in their efforts to further the health of the people, they would become a power in any community, but for many years the doctors have not been held in that estimation to which they are entitled. The consequence is that the people distrust any concerted move on the part of the physicians even though they are told that it is for their benefit.

Dr. McCormack suggested that the profession of the cities meet with other professions and

with laymen who are interested in public works where the advice of the physician would be of value, and to that end Dr. Northrop, who presided at the public meeting in Minneapolis, appointed a committee to arrange for a series of conferences, and if this committee will do its duty, much good can be expected.

The first of these series of meetings occurred on the night of January 25th, when the public were invited to participate in a discussion as to the benefits and necessities of medical inspection in the public schools. This has already been indorsed heartily by the medical men, and it is hoped that the conference with the Board of Education and the people who are interested in the public school questions, will be sufficient to renew the work of medical inspection.

Dr. McCormack always talks to medical men in a very plain way and tells them of their faults and of their objects, and his fundamental principle is always in the foreground, which is the unification of the profession as men, as well as professional brothers.

After Dr. McCormack's series of lectures in the Twin Cities, he attended a meeting of the Southwestern Medical Society at Pipestone and delivered an address at their evening meeting. He promises to return to Minnesota before the next meeting of the legislature, and will do some missionary work for the cause of medical legislation.

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## REPORTS OF SOCIETIES

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### MINNESOTA ACADEMY OF MEDICINE

The January meeting of the Academy was held at the Minnesota Club, St. Paul, Wednesday, Jan. 6th.

Dinner was served at 7 P. M., and the meeting was called to order at 8:15 by the president, Dr. J. E. Moore.

After the business session, Dr. Andrew Henderson, of Cloquet, read a paper entitled "Does the Subject of Medical Ethics Receive Sufficient Attention in the Training of Our Students in Medicine?" The subject was discussed by Drs. O'Brien, White, William Davis, Cates, Moore, Dennis and Williams.

Dr. C. Eugene Riggs read a clinical report of a case of "Charcot's Disease, with Progressive Bulbar Symptoms." The subject was discussed by Drs. Dunning, Gilfillan and Sneve.

A. W. DUNNING, M. D., Secretary.



## SOUTHWESTERN SOCIETY

The twenty-first annual meeting of the Society was held at Pipestone on Jan. 15th, with 21 members and about 25 visiting physicians present. The following papers were read and, as usual with this society, were generally discussed. It may be noted that four of them were entirely clinical, the tendency being, very properly, to eliminate non-essentials and to emphasize symptoms, diagnosis and treatment:

"Meckel's Diverticulum," by Dr. A. E. Spalding, Luverne; "Acute Anterior Poliomyelitis," Dr. G. D. Rice, Pipestone; "Christianity vs. Materialism Among Physicians," by Dr. Louise M. Gerber, Jasper; "Perforative Appendicitis Complicating Pregnancy," by Dr. L. Sogge, Windom; "Gangrenous Appendicitis," by Dr. G. G. Balcom, Lake Wilson.

Dr. J. N. McCormack, the official lecturer for the American Medical Association, gave one of his very instructive and interesting addresses, to which the public was invited. Owing to a severe snowstorm the attendance was small.

Officers were elected as follows: President, Dr. A. H. Brown, Pipestone; vice-president, Dr. A. B. Williams, Wilmont; secretary and treasurer, Dr. Emil King, Fulda; censor for three years, Dr. A. E. Spalding, Luverne; delegate, Dr. W. D. Beadie, Windom; alternate, Dr. F. R. Weiser, Windom.

The following physicians were elected to membership: Dr. B. O. Work, Worthington; Dr. Theo. S. Paulson, Hills; Dr. C. A. Sherer, Ruth-ton; Dr. P. D. Whyte, Hardwick.

The resolution adopted by the House of Delegates at the late State Association meeting relating to division of fees was adopted unanimously, and the one relating to medical defense was deferred to the next meeting owing to lack of time to discuss the same as thoroughly as the importance of the subject requires.

The next meeting will be held at Slayton on July 8th.

EMIL KING, M. D., Secretary.

## MOWER COUNTY SOCIETY

The Society met at Austin on Jan. 13th, with fifteen physicians and their wives present.

The medical defense bill was fully discussed, and our delegate was instructed to vote for the measure at the next meeting.

We had a very successful meeting. The scientific program was largely done away with, and social features and good fellowship made the prominent part of the program.

Officers were elected as follows: President, Dr. C. C. Lech, Austin; vice-president, Dr. C. F. Lewis, Austin; secretary, Dr. O. H. Hegge.

O. H. HEGGE, M. D., Secretary.

## UPPER MISSISSIPPI SOCIETY

The Society met at Brainerd on Jan. 12th, with twenty-four members present.

Papers were read as follows: "Conservatism in Traumatic Surgery," by Dr. W. Courtney, Brainerd; "A Case of Tetanus," by Dr. E. E. Holman, Pine River; Tetanus, with Report of a Case," by Dr. A. W. Ide, Brainerd; "New Matters Considered at State Society Meeting," by Dr. Wm. Reid, Deerwood.

Officers for the current year were elected as follows: President, Dr. O. T. Batchellor, Brainerd; vice-president, Dr. F. H. Knickerbocker, Staples; secretary, Dr. G. H. Lowthian, Akeley; treasurer, Dr. Paul Kenyon, Wadena; censor, Dr. C. F. Coulter, Wadena.

The papers were excellent and were discussed freely by many.

The next meeting will be held at Staples.

G. H. LOWTHIAN, M. D., Secretary.

## PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls on Jan. 13th, with eighteen members present.

Papers were read by Drs. Haskell, Baker, Ling and Sherping, in a symposium on nephritis. A general and instructive discussion followed.

The medical defense bill was discussed, and a committee was appointed to bring recommendations at our meeting in April. Dr. Andrews' resolution was likewise dealt with.

The following were elected officers: President, Dr. J. A. Freeborn, Fergus Falls; first vice-president, Dr. P. G. Cowing, Ashby; second vice-president, Dr. A. Mason Randall, Underwood; secretary-treasurer, Dr. O. M. Haugan, Fergus Falls; delegate, Dr. O. M. Haugan, Fergus Falls; alternate, Dr. Syver Vinje, Henning.

It was a fine, instructive and interesting meeting.

O. M. HAUGAN, M. D., Secretary.

## THE GOODHUE COUNTY SOCIETY

The annual meeting of the Society was held in Red Wing on Jan. 5th.

The following officers were elected for the ensuing year: President, Dr. H. E. Conley, Cannon Falls; vice-president, Dr. F. W. Dimmitt.

Red Wing; secretary and treasurer, Dr. A. T. Conley, Cannon Falls.

The Board of Censors consists of the following members: Dr. A. W. Jones, Red Wing, three years; Dr. H. E. Bucke, Kenyon, two years; Dr. M. W. Smith, Red Wing, one year.

The next meeting will be held in Red Wing, Tuesday, April 6, 1909.

A. T. CONLEY, M. D., Secretary.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. N. A. Nelson of Dawson, has moved to St. Paul.

Dr. G. A. Holdridge has moved from St. Cloud to Browerville.

Dr. A. C. Baker, of Stephen, has moved to Spokane, Wash.

Dr. Charles E. Legg, of Kansas, has located at Lamro, S. D.

Drs. Bacon and Olsen, of Milaca, have opened a hospital at that place.

Dr. Harry C. Parsons, of Anamosa, Iowa, has moved to Watertown, S. D.

Dr. J. L. Devine, of Lansford, N. D., is doing post-graduate work in Chicago.

Dr. R. H. Ray, of Garrison, N. D., is in Philadelphia doing post-graduate work.

Dr. John E. Crewe, of Rochester, has gone to Chicago to attend clinics in the hospitals.

Dr. J. F. Speck has located at Proctor, taking the practice given up by Dr. Carroll Corson.

Dr. La Roy H. Labbitt, a 1907 graduate of the State University, has located at Enderlin, N. D.

Dr. S. S. Blacklock, of Hibbing, who has been doing post-graduate work in Vienna, returned home last month.

Dr. Henry A. Owenson, of Deering, N. D., was married last month to Miss Alma A. Neitzel, of Brownton, Minn.

Dr. L. C. Bruning of Miles City, Montana, one of the best known physicians in that state, died last month in Chicago.

The County Commissioners of Lawrence County, S. D., will build a hospital building of reinforced concrete, to cost about \$10,000.

Dr. David A. Kirk, who practiced for a number of years in Le Sueur, died last month in Minneapolis, where he came last October for treatment.

Dr. O. W. Schlopp, who has been practicing for a short time in Duluth, has located in Hutchinson. He is a graduate of Baltimore Medical College, '07.

Dr. Thomas J. Maloney, of St. Paul, now an attaché of the American embassy at Vienna, is working with his wife among the earthquake sufferers in Sicily.

The state tuberculosis exhibit at Eveleth has aroused very great interest in the subject, and the Range physicians have organized to fight the plague persistently and effectively.

St. Mary's Hospital, of Duluth, has opened a training-school for nurses. Six young women enrolled at the opening exercises, in which Bishop McGolrick took a prominent part.

One of the leading contractors of Minneapolis has the contract for the \$100,000 building already begun for the Rosendahl Sulphur Spring Sanitarium at Jordan. A large force of men are at work, and the building will be completed in the early summer.

Medical inspection in the Minneapolis schools has been held up temporarily by the new Board of Education. Inspection will prevail as a matter of course in time in all city schools. The State Superintendent of Schools recommends it in his annual report, just out.

Gov. Johnson has made the following appointments for the State Board of Medical Examiners: Dr. P. A. Hilbert, of Melrose, and Dr. W. S. Fullerton, of St. Paul, reappointed; and for the State Board of Health, Dr. C. W. More, of Eveleth, and Dr. W. A. Jones, of Minneapolis, reappointed.

Dr. W. M. Chowning, of Minneapolis, obtained a verdict for \$580 from a local transfer company for the loss of blood specimens of Rocky Mountain spotted fever, obtained by him last summer. Dr. Chowning has been investigating the causes of this disease for several years, and the loss of his season's specimens is very unfortunate.

The Northwestern District Medical Society of North Dakota met at Minot, N. D., last month, with a large attendance. Several papers were read, followed by the election of officers, as follows: President, Dr. H. C. Windell, Williston; vice-president, Dr. E. M. Rawson, Minot; secre-

tary-treasurer, Dr. R. W. Pence, Minot; delegate, Dr. J. D. Davies, Granville.

#### PART OF OFFICE OFFERED

A dealer in physicians' supplies in Minneapolis desires to share his furnished reception-room with a dentist or physician. For particulars, address L. E., care of this office.

#### AUTOMOBILE FOR SALE

A 1908 Mitchell runabout; practically new; top and glass front; 10-inch Rushmore headlights and side and tail lights; gas tank; storage battery; French horn; 1 extra tire and other extras. Cost, \$1,365; will sell for \$1,050. Guaranteed in fine condition. Address Dr. Scheffek, 501 Masonic Temple, Minneapolis.

#### PRACTICE FOR SALE

I desire to sell or lease, unopposed location in Minnesota; good rich territory; Germans, Scandinavians and Americans; three hours' ride to Twin Cities; town of about 400, centrally located; an ideal place for any doctor who can attend to general practice; English spoken generally; good graded school and churches. A doctor, young or old, who can also buy drug-store and stock, (\$3,000 deal, cash and time), can make money. Satisfactory reasons for selling. If you want such, address R. N., care of this office.

#### PRACTICE FOR SALE

\$3,600 will buy general practice in good live S. D. town; splendid field; nearest doctor 40 miles in one direction, 15 and 10 on other sides; one other doctor in town, kind of competitor you want. Fees the highest: \$1 a mile and obstetric cases \$15 to \$25. Collections 95 per cent. or better. Population German and Scandinavian. Will turn over practice to successor who will buy my residence (\$1,500) and office (\$350) located next door to drug-store. Unusual opportunity for live man. Act at once, and don't answer if you can't buy residence. Reason for selling: Going in with surgeon in city. Address, J. W., care of this office.

#### LOCATION OFFERED

Well-established practice in one of the most prosperous of the medium-sized cities in the best section of Minnesota, averaging over \$3,800 per year for the past several years and can be increased; practically all collected and collectible, will be resigned to a regular physician who will purchase my entire office outfit and a few other personal effects for \$800 cash.

I wish to change to a large city to practice my specialty. Possession given May next. Address C. W., care of this office.

#### PRACTICE FOR EXCHANGE

A physician in Idaho, with a practice worth \$5,000 a year, desires to exchange for a practice in Minnesota equally as good. Best of reasons for leaving present location. Address K. M., care of this office.

#### PRACTICE FOR SALE

I wish to retire and sell my practice for the price (\$3,000) of my real estate. County seat; town of 1,600 in best part of southern Minnesota; population, Scandinavian, German, and Irish. Address R. C., care of this office.

#### PRACTICE FOR SALE

Four thousand dollar practice in a delightful northern Minnesota town; population six to seven thousand; best office location in town. Examiner for eighteen or twenty old line insurance companies; surgeon for two railway companies; excellent hospital accommodations. Will turn over everything to party who will buy my \$3,500 dollar residence for \$3,000, \$500 down and balance in monthly payments; not less than \$25 per month. Address M. B., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Doctor*—If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-Graduate Medical Dept., Tulane University of Louisiana.

## DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF OCTOBER, 1908

### REPORTED FROM STATE INSTITUTIONS FOR MONTH OF OCTOBER, 1908

#### STATE INSTITUTIONS.

	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane.....	9	1										6			
Rochester, Hospital for Insane.....	3														
St. Peter, Hospital for Insane.....	12	1										1			
Anoka, Asylum.....	1	1													
Hastings, Asylum.....	1														
Faribault, School for Deaf.....															
Faribault, School for Blind.....															
Faribault, School for Feeble Minded.....	4	3													
Owatonna, School for Dependents.....															
Stillwater, State Prison.....															
St. Cloud, State Reformatory.....															
Red Wing, State Training School.....															
Minneapolis, Soldiers' Home.....	5													0	
Totals.....	35	6										7			



REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF OCTOBER, 1908

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	4	1								1					
Anoka.....	3,769	4,053	20														
Austin.....	5,474	6,489	44														
Barnesville.....	1,326	1,566	6														
Bemidji.....	2,183	3,800	20														
Blue Earth.....	2,900	2,364	14	1	1												
Brainerd.....	7,524	8,111	14	1													
Chaska.....	2,165	2,085	1														
Chatfield.....	1,426	1,300	1														
Cloquet.....	3,074	6,117	2														
Crookston.....	5,359	6,794	2														
Detroit.....	2,060	2,149	4	1				1						1			
Duluth.....	52,968	64,942	81	3	1	5		4				1	2	7	5	1	2
E. Grand Forks.....	2,077	2,481	7														
Ely.....	3,712	4,045	3			2											
Eveleth.....	2,752	5,332	8					1						1			
Fairbault.....	7,868	8,279	7			2	1						1				
Fairmont.....	3,440	2,955	3														
Fergus Falls.....	6,072	6,692	8		1									1		1	
Granite Falls.....	1,214	1,340	4														
Hastings.....	3,811	3,810	6														
Hutchinson.....	2,495	2,489	2	1													
Jordan.....	1,270	1,311	2										1				
Lake City.....	2,744	2,877	5												1		
Litchfield.....	2,280	2,415	1														
Little Falls.....	5,774	5,856	5				1								1		
Luverne.....	2,223	2,272	4	1													
Le Sueur.....	1,937	1,842	2													1	
Madison.....	1,336	1,604	3													1	
Mankato.....	10,559	10,996	14	2	1	2								4			
Marshall.....	2,088	2,243	1														
Melrose.....	1,768	2,151	0														
Minneapolis.....	202,718	261,974	301	29	3	26		13					1	13	17	20	
Montgomery.....	979	1,281	1														
Montevideo.....	2,146	2,595	5														
Moorhead.....	3,730	4,794	9	1										1			
Morris.....	1,934	2,003	4			1											
New Prague.....	1,228	1,419	2														
New Ulm.....	5,403	5,720	5														
Northfield.....	3,210	3,438	3														
Ortonville.....	1,247	1,612	1														
Owatonna.....	5,561	5,651	1														
Pipestone.....	2,536	2,885	1														
Red Lake Falls.....	1,885	1,797	2														
Red Wing.....	7,525	8,149	8	1												1	
Redwood Falls.....	1,661	1,806	0														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	22	1		1								1		3	
Rushford.....	1,100	1,133	1														
St. Charles.....	1,304	1,238	5		1	1											
St. Cloud.....	8,663	9,422	9	1											1	3	
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	183	13	3	9	1	2				3	2	4	15	10	
St. Peter.....	4,302	4,514	5			1											
Sauk Centre.....	2,220	2,463	1														
Shakopee.....	2,046	2,069	1														
Sleepy Eye.....	2,046	2,312	0														
So. St. Paul.....	2,322	3,458	0														
Stillwater.....	12,318	12,435	6			1										2	
Thief River Falls.....	1,819	3,502	1														
Tower.....	1,366	1,340	1														
Tracy.....	1,911	2,015	1	1													
Virginia.....	2,962	6,056	6													1	
Wabasha.....	2,528	2,619	2														
Warren.....	1,276	1,640	1	1	1												
Waseca.....	3,103	2,838	2														
Waterville.....	1,260	1,383	1														
West St. Paul.....	1,830	2,100	2														
Willmar.....	3,409	4,040	3														
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	17	2		1										2	
Worthington.....	2,386	2,276	2											1			

## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF OCTOBER, 1908

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	1														
Adrian.....	1,258	1,184	1														
Aitkin.....	1,719	1,896	0														
Akeley.....		1,636	1														
Alexandria.....	2,681	3,051	4	1													
Appleton.....	1,184	1,321	1														
Belle Plaine.....	1,121	1,301	1														
Benson.....	1,525	1,766	0														
Breckenridge.....	1,282	1,850	4														
Buffalo.....	1,040	1,124	2														
Caledonia.....	1,175	1,405	1														
Canby.....	1,100	1,505	0														
Cannon Falls.....	1,239	1,460	0														
Cass Lake.....	546	1,062	1														
Chisholm.....		4,231	8			1											
Clayton.....	962	1,056	2			1											
Delano.....	967	1,023	0														
Fosston.....	864	1,000	2														
Frazee.....	1,000	1,146	1														
Glencoe.....	1,780	1,805	1														
Glenwood.....	1,116	1,718	1														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,428	2,055	5														
Hallock.....	805	1,014	1														
Hibbing.....	2,481	6,566	18	1		4											
Jackson.....	1,756	1,776	2														
Janesville.....	1,254	1,205	1														
Kasson.....	1,112	1,049	1														
Kenyon.....	1,202	1,252	2														
Lake Crystal.....	1,215	1,231	0														
Lanesboro.....	1,102	1,041	1														
Long Prairie.....	1,385	1,256	3														
Madelia.....	1,272	1,290	1														
Milaca.....	1,204	1,319	3														
Mountain Lake.....	959	1,063	1														
North Mankato.....	939	1,129	1														
North St. Paul.....	1,110	1,400	0														
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	1														
Park Rapids.....	1,313	1,719	1														
Pelican Rapids.....	1,033	1,095	0														
Perham.....	1,182	1,366	3														
Pine City.....	993	1,092	1														
Plainview.....	1,038	1,140	1														
Preston.....	1,278	1,320	1														
Princeton.....	1,319	1,704	1														
Rush City.....	987	1,041	2														
Rushford.....	1,062	1,040	0														
St. Louis Park.....	1,325	1,491	1														
Sandstone.....	1,189	1,589	1														
Sauk Rapids.....	1,391	1,552	1														
Scanlon.....		1,122	2			1											
South Stillwater.....	1,422	1,572	1														
Springfield.....	1,511	1,546	1			1											
Spring Valley.....	1,770	1,573	2														
Staples.....	1,504	2,163	1														
Two Harbors.....	3,278	4,402	6			1		1					1				
Wadena.....	1,520	1,868	1														
Wells.....	2,017	1,814	1														
West Minneapolis.....	2,250	2,530	0														
Wheaton.....	1,132	1,346	4			1											
White Bear Lake.....	1,288	1,724	2	1													
Winnebago City.....	1,816	1,553	1														
Winthrop.....	813	1,031	1														
Zumbota.....	1,119	1,129	1														
State Institutions.....			35	6										7			
Other parts of State.....	1,012,328	1,085,886	765	40	7	31	1	12	1	1	1	7	5	19	114	38	1
Total for State.....	1,751,395	1,979,658	1730	115	20	93	5	38	2	1	1	13	15	73	178	88	3

137 Still births and premature births, not included in above totals.

\*No report received Health officer not doing his duty

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## ACCIDENTS AND COMPLICATIONS IN GOITER OPERATIONS\*

BY C. H. MAYO, A. M., M. D.

ROCHESTER

The technic in the surgical treatment of simple goiter has now so nearly reached a stage of perfection that the operation is a comparatively safe one, barring accidents and complications. In the early days of abdominal surgery we not infrequently heard of a death from the slipping of a ligature, and there followed many long discussions upon the best method and the best material for ligating. So in surgery of the thyroid gland is hemorrhage, either primary or delayed, a matter of serious consideration because of the number of deaths which occur from this cause in proportion to the number occurring from other complications, such as sepsis, shock, or tracheal collapse.

We have had a ligature slip several times while the patient was on the operating-table, and three times this accident has been the occasion of delayed hemorrhage. The slipping ligature has always been the one ligating the superior thyroid artery, and it has seemed as though some of the muscle fibers of the omohyoid were included in the ligation, and that the movement of the neck displaced the ligature.

A large amount of blood may be lost in oper-

ating upon colloid goiter, and there will be but little delay in the recovery of the patient, but in hyperthyroidism the loss of blood is a more serious matter on account of the general physical condition of the patient. In order to cleanse the wound from blood and make it possible to secure the artery it may be necessary to compress the common carotid between the fingers, one within and the other without the wound.

Hemorrhage from veins is a great annoyance in operating on large goiters, as the trachea is often softened and distorted, rendering manipulation a serious interference to respiration, which greatly increases venous pressure. In large goiters it may be advisable to divide the gland at the isthmus, free the trachea and turn the thyroid lobe out from, instead of toward, the center. In benign goiter the tracheal rings are softened laterally. Intrathoracic goiters are usually encapsulated, which fact permits their enucleation. Only once have we had serious hemorrhage from this type, and in that case it was controlled by four large abdominal pads packed into the cavity. They were removed on the fifth day. The enormous cavity was apparently closing normally when on the fifteenth day there was an almost fatal hemorrhage, and again on the 22d and 27th days. The cavity was then filled with Beck's

\*Read before the Western Surgical and Gynecological Society, Minneapolis, Dec. 30, 1908.



paste of paraffin, bismuth, and vaseline, and it healed at once. We have not seen a serious case of air-embolism.

There have been several cases of tracheal pressure from the tumor, causing difficulty in respiration. The goiters were usually encapsulated adenoma close to the trachea and next to the sternum, or in the form of an intrathoracic tumor.

Occasionally a dense colloid or exophthalmic goiter will greatly compress the trachea, which has become softened. In one case a colloid growth was removed, and death occurred on the third day from tracheal collapse. This condition required a tracheotomy on the table during operation in three different cases: once in cancer (of which there were 16 cases), once in a colloid of great size, and once in exophthalmic goiter. Complete relief and recovery followed except in the case where carcinoma had penetrated the rings developing within the trachea. This patient lived for a number of months wearing a long, flexible trachea-tube.

Hoarseness or a complete loss of voice may occur from the pressure of a hard goiter compressing the recurrent laryngeal nerve. We have observed this condition in colloid goiter, exophthalmic goiter, and in malignancy. All cases of goiter should be examined with regard to the condition of the vocal cords before operation, as a cord in slight paresis before operation may become completely paralyzed within a few days afterward, from the slight traumatism of the recurrent laryngeal nerve. These cases should recover eventually, although weeks may pass before function is complete.

If the operation is one of enucleation the recurrent laryngeal nerve is rarely injured. In extirpation the posterior capsule of the gland should be preserved. As an additional precaution individual vessels must be caught and ligated, especially those of the inferior thyroid artery. The forceps is applied so as to close in the vertical line of the neck, and not across it. This application is less likely to include the nerve in the grasp of the forceps in the blood-discolored tissue. In from five to seven per cent of thyroidectomies some slight injury occurs, but it is rarely permanent.

Deep suturing with catgut may occasionally include the nerve, but, as such sutures are seldom of great tension, recovery follows a limited period of hoarseness. In cases of paresis on one side the compensation of a sound vocal cord is re-

markable, some help being derived from the superior laryngeal nerves.

In ligating the superior thyroid arteries and veins a point is selected for the ligature opposite the thyroid cartilage between the two laryngeals, superior and inferior or recurrent, at the upper pole of the gland.

In operating upon cases of hyperthyroidism the general physical condition of the patient is apt to be the serious complication. Has the operation been delayed until heart-muscle degeneration, fatty liver, gastric crisis, and intestinal complications render the condition serious? In that case we must consider the loss of blood, the possible shock of the anesthetic, and the excitement as factors that may possibly cause death. Prolonged preliminary treatment may be necessary, or double ligation of the superior thyroid vessels, under cocaine, may be the only safe procedure preliminary to the operation for thyroidectomy.

In 575 cases of colloid, diffuse or encapsulated adenomata, there were four deaths, two of which would come in the above classification, as one was from tracheal collapse and one from secondary hemorrhage. The third death occurred from lobar pneumonia, and the fourth from septic pneumonia.

In 410 cases of hyperthyroidism there were nineteen deaths, but with changes in technic and the correction of faults in judgment as to the proper periods for operating, this mortality has been reduced from twenty-five per cent in the first sixteen cases to four and five per cent.

In operating for colloid goiter a portion of the best appearing part of the thyroid should be left, while in operating for hyperthyroidism a smaller portion of the gland substance seems to be sufficient. Should a patient develop an excessive amount of fat or a general obese condition after operation, it is probable that too little gland has been left. Thyroid feeding will give relief in this as well as other conditions associated with the hyperthyroidism. The feeding of thyroid can be continued at intervals, or the transplanting of thyroid gland tissue can be made.

The parathyroid bodies are seldom seriously diseased, and when removed it is an accidental complication which may not cause trouble if but one or possibly two are injured or taken. While we have had no experience with tetany in our cases, we are nevertheless careful to replace beneath the capsule of the gland any small detached gland-like body resembling them removed during thyroidectomy.

# ANATOMICAL TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR, AFTER THE METHOD OF MAXWELL AND RUTH\*

By A. SHIMONEK, M. D.

ST. PAUL

In presenting this case to you, illustrating the result of the anatomic treatment of the fracture of the femoral neck after the method of Ruth and Maxwell, I am fully aware that I am not showing you anything connected with the method as new or unfamiliar to most, and probably to all, of those who busy themselves with the treatment of fractures. I have personally been so impressed with the method since Dr. Ruth read his excellent paper at the last meeting of the American Medical Association here, that I have used it in every instance with most gratifying results—results far superior to any other method—and a similar experience is that of all who are using it.

Time will not permit me to go into the mechanism and pathology of the fracture, and that is not the object of this clinical demonstration. Suffice it to say that the fracture is not uncommon: six to ten per cent of all fractures are of this variety, of course, occurring in individuals where senility is an important factor in producing osteoporosis, and therefore fragility of bone, predisposing to breaks upon comparatively slight injury.

Given a case like this, the patient before you, who was violently precipitated to the ground by being run into by a cyclist, striking upon her left hip, unable to rise, suffering great pain with a shortening of one and three-fourths inches, with complete eversion over which she had absolutely no control, with the superior border of the trochanter major considerably above the Roser-Nelaton line we may without hesitation or skiagraphic conformation diagnose the fracture in consideration.

Skiagraphic aid is impossible in home treatment, though, when practical, it should be used; however, it is not an easy break to demonstrate by it. The line of fracture may be anywhere from the head of the bone to the junction of the neck with the shaft. Fractures of the head are simply rare curiosities, only a few being on record. We are no more concerned about the so-called intra- and extra-capsular variety. Such

an ultra-fine diagnosis is neither possible, except possibly by x-ray, nor is it important as far as treatment is concerned. Still, I believe, for prognostic purposes it may be of value, for it may be that a fracture very near the head with much destruction of the periosteum may so interfere with nourishment that repair may be delayed or materially interfered with. Dr. Ruth has, however, shown the femur where union was firm and bony and the line of fracture extremely near the head. The displacement of the lower fragment is upward and inward, this being due to muscular contraction, and the degree of this displacement is, of course, proportionate to the muscular strength of the individual. The backward displacement is due to weight of the leg and is much easier to overcome than the former two.

The musculature to be considered are the long flexors, the adductors, and the rotators. The most important of them all, from the point of treatment, are the psoas and iliacus, the two muscles that arise from the last dorsal and all of the lumbar vertebrae, and the iliac fossa, converging into a muscular tendon which passes above and anterior to the femoral neck, hugging closely the anterior part of the capsular ligament. These muscles, in the normal condition, are flexors and are about neutral as far as internal rotation is considered, because the femoral head resisting is internal to the line of action. When the break occurs, however, this line of traction is so changed, owing to the lower fragment carrying it posteriorly and above the neck, that it becomes at once a powerful external rotator, the eversion of the foot being almost entirely due to its abnormal traction. In this distorted position these muscles play another important part, and that is the crowding of the anterior and untorn part of the capsular ligament with some of the fibers of the muscles about the joint between the two fragments. This fact has been a very important factor in preventing union, and has been very difficult to overcome by the older methods of treatment.

The all-important management of this fracture, of course, as in all others, is reduction and re-

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.

tention of the fragments until sufficient callus has formed and sufficiently solidified to hold the fragments in position without artificial aid.

This plan of treatment, as you know, depends upon reduction, always to be done under complete anesthesia; then traction, longitudinal and lateral, the latter at a certain angle with counter-extension for both lines of traction with enough weight to bring about and maintain alignment of the fragments.

The essentials in the treatment are—

1. Reduction of fracture under anesthesia by flexing the thigh at right angles to the trunk. This relaxes the psoas and iliacus muscles, carries it away from the anterior surface of the capsule, so that its action cannot force soft parts between fragments, and brings its line of traction so that its neutral rotation function is re-established, which aids the inward rotation of the femur to its normal position.

2. Outward and a little forward traction upon the upper end of lower fragment by an assistant, to overcome the inward and backward displacement and to bring the trochanter major as prominent and on the level with the sound side, while traction is made on the limb in the long axis of the body so as to correct the upper displacement and overcome the deformity, as indicated in the length of the limb position and prominence of the great trochanter.

3. Adjustment of a steady lateral pull on the upper end of the lower fragment, and by Buck's extension and counter-extension to the limb in line with the body to maintain the normal length of the limb.

4. The adjustment of the traction by weight and pulleys to the extremity in line with the body and the lateral pull so that there shall be no tendency to shortening, eversion of the foot, flattening of the hip, or dropping of the great trochanter on the injured side behind and internal to its normal level. Such a plan of extension and counter-extension will overcome the action of the muscles acting vertically, such as the rectus, biceps, sartorius, semitendinosus, semimembranosus, gracilis, tensor vaginæ femoris, and the vertical portion of the adductor magnus; obliquely, as the adductors, glutei, and pectineus; transversely, as the gemelli, quadratus, pyriformis, and obturator, and the powerful psoas and iliacus.

Such a traction force will cause the resultant force to be in line with the neck of the femur, and the untorn portion of the capsular ligament

will act as a close-fitting cuff, adjusting and aligning the fragments.

The weight for the longitudinal traction will be from twelve to twenty-five pounds, according to the muscular tonicity of the patient, or just sufficient to keep the leg as long as the sound one. The bed should be elevated about one foot for counter-extension. The line of lateral traction should be from forty to fifty degrees outward and upward and about ten degrees forward to keep the trochanter major on a level with the opposite side, and the bed should be tilted about six inches for counter-extension to this line of pull. In a few days the knee should be moved to prevent stiffness, and this can be repeated every few days. The patient may be allowed to be propped up or may even sit up, as no amount of motion will disturb the fragment. With the proper line of traction and sufficient weight, from four to six weeks of such confinement is sufficient to have enough callus and of sufficient solidity to hold the fragments, and the apparatus may be removed and the patient allowed more freedom, but he must remain in bed probably two weeks before being allowed to get up. He should not, however, attempt to use the limb under three months and probably better, four.

I have taken the liberty to emphasize and impress upon those not using the method to try it at their next opportunity, for I believe it ought to be generally adopted because of its superior results, its comfort, and the freedom it gives to these old, unfortunate patients; and this is my only object and excuse for showing a method which has been more or less in use for thirty-five years.

#### DISCUSSION

Dr. F. A. Dunsmoor: An angle of 45 degrees, does that mean horizontally?

Dr. A. Shimonek: That means upwards, just as this picture shows.

Dr. W. T. Adams: I would like to ask the doctor whether he applies that treatment to impacted fractures?

Dr. Shimonek: That is just for these cases. If you get an impacted fracture let it alone.

Dr. Adams: Would you put any dressing on an impacted fracture?

Dr. Shimonek: Yes, if I could keep my patient quiet.

Dr. J. E. Moore: I want to endorse what Dr. Shimonek has said. Surgeons have admitted that treatment of fractures of the neck of the femur by older methods is a failure, but since this method has come into vogue I have restored a number of old people to usefulness. I would feel I was not doing my duty if I did not use this method. I speak of this on account of the conser-



vatism of the profession in this matter. Dr. Maxwell used to say, "I can get the profession to listen to me because I have been practicing twenty years and here are my specimens." The method is easy of application, affords the patient the greatest possible comfort and brings about bony union in a very large percentage of cases.

Dr. C. W. Ray: I have applied this treatment a number of times. I have applied it in one patient ninety-two years old that got up and walked without a cane. I know it is a success from actual experience. I have applied it a number of times and each time it was an absolute success. The only trouble that I can see about it is that it is so absolutely simple that when you once know how it is done it is neglected and is not used.

Dr. Shimonek then closed the discussion by reading the following letter from Dr. Ruth, relating to the treatment of fractures of the femur by this method:

Ponce, Porto Rico.

Dr. A. Shimonek,  
St. Paul, Minn.

My Dear Doctor: You see I am away down here in Porto Rico for the past two and one-half months. I am sending you the latest reprint I have on the subject. I have another article more elaborate and complete, which I shall probably publish in a few months, or within a year. The essentials remain the same.

I am fully warranted, I think, in saying that every

case properly treated by this method for four weeks will give good union; in other words, every case with enough vitality to live four weeks, properly treated, will be almost perfectly comfortable and will obtain union. I have reports from over 100 cases which bear out this view. X-ray photos, or shadowgraphs, are now being taken to show the conditions before and after treatment to avoid the uncertainty of securing bones after long years of delay. I have, however, the largest collection of bones extant, I believe, illustrating recovery from this grave lesion. The method is rapidly gaining in popularity as its principles are better understood, and the text-books are taking it up, though the text-book reports and explanations are too meager as yet to enable one unfamiliar with the method to use it intelligently.

I shall be pleased to have you give me a detailed report of your experience with the method.

My old assistant, Dr. A. S. Rider, of Flandreau, S. D., has the loan of my specimens at the present time to use in his presentation of the subject in the State Society. Dr. Moore of your city can also give you some valuable reports of experience with the method.

Dr. A. J. Ochsner has given the method extensive trial and considers it the only method worthy of serious consideration.

Hoping to hear further from you regarding your experience, and with best wishes, I am

Yours truly,

(Signed) C. E. RUTH.

Sept. 15, 1908.

## WHAT CAN OUR ASSOCIATION ACCOMPLISH IN BUSINESS, EDUCATIONAL, MORAL, AND SOCIAL MATTERS?\*

By R. G. WARNE, M. D.

MITCHELL, S. D.

We as individual members of our Association are simply units upon which is built the American Medical Association. The purposes of the A. M. A. are summed up in a concise manner by Secretary Geo. H. Simmons, in an address before the Kentucky Medical Society, when he concluded as follows:

"In a word, without a selfish motive the A. M. A. stands for honesty and fairness, and unalterably and eternally against fraud and deception in all that relates to the health and the physical welfare of the people, and especially it stands for the individual doctor, whether he lives in the greatest of our metropolitan cities or in the remotest mountain hamlet. It stands to help him, to become a better physician, to protect and promote his every interest—scientific, social,

moral and material—so that he may give better service to those who depend on him in their time of affliction and also that he may stand in his community as a beacon light, a great scientific and moral leader of his people. These are the principles for which the A. M. A. stands and it is only a question of time when it will receive the cordial support and earnest co-operation of every intelligent, right thinking member of our profession in carrying out these principles."

That each and everyone of us may be benefited by our organization we must do our part in this work, so that our business, professional, and social standing shall be improved in our individual communities. The profession as a whole cannot be improved until the individual members are improved. We all of us have our faults—faults which can be eliminated. The original attempt at guidance of ourselves was the code of

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.

ethics of the A. M. A. and of the National Institute of Homeopathy, and these rules still stand and are hard to improve upon.

In a business way we can improve our standing by paying our debts. To do this it is necessary that we collect what is our due and it is need that we see that a proper amount is due for services rendered. Our Association can give great assistance in this matter, especially through its component district societies, in formulating and carrying out uniform methods and agreements. Individual members, if they adhere to the code in so far as one point only is concerned, will do much to advance our business welfare. This point is, "It should be a point of honor to adhere to rules adopted."

Deposits, bonds, forfeitures, etc., are worse than useless. This point can be settled only when we hold our word good to our God, our neighbor, and ourselves. Temporary gain by misrepresentation or forfeiture of his word will always re-act on an individual physician so that he will permanently lose money and reputation. In this regard many localities have had a varied experience during the past year. Our state can show a few endeavors of individuals to gain by the short route. The action of the Duquesne Company Medical Society of Pennsylvania is of interest. The indictments of physicians in Waverly, Iowa, and vicinity afford a matter for much thought on the part of all physicians.

I believe a standing committee on purely business affairs would be of great benefit to the profession as a whole.

Educationally, our Association should stand for the improvement of our individual members, but above this stands the duty we owe to the public. If we maintain our ideals we must at all time be ready to give information to the public in regard to public health, sanitary living, and sanitary public schools, that the human being may be made stronger and healthier. In this regard I believe that as a profession we are guilty of not taking the right stand on the marriage of incompetents, criminals, and diseased persons. Venereal disease alone will demand the attention of the people to a great extent in the near future and our profession should stand ready to give information that the public should know.

Morally and socially no physician is entitled to hold a place of respect and confidence with his patients and the public unless he be clean physically and pure of thought. It should be the duty of this Association to promote the personal char-

acter of each of its members, as well as to endeavor to increase our mental and professional standing, for by so doing we shall indirectly be benefited in our business financially.

That the physician of today is taking his place in all matters of public interest is shown by an editorial in *The Chicago News*, which says:

"A New York contemporary calls attention to the interesting fact that in New Jersey alone in the recent election eleven physicians were successful as candidates for mayoral positions. Such a fact is symptomatic of a new public view of the physician's usefulness in official life." One naturally thinks of Dr. Taylor, the San Francisco reform mayor, as another instance of this tendency. Doctors at the head of health boards excite no comment. \* \* \* But today the separation of local from general elections is an accomplished fact in progressive municipalities, and it is widely recognized that efficiency and fitness are the only proper tests applicable to local administrations. Moreover, the scope of municipal activity has steadily been enlarged, and we now accept the idea that municipal economy is household economy magnified. Sanitation, hygiene, abundant light and pure air, a proper supply of small parks and play-grounds, billboard regulations, the promotion of symmetry and beauty—these are among the things which are now emphasized in city administration. And it is natural that the people should turn to the broader-minded and progressive physicians, the physicians who put not their trust in pills and mixtures, but urge rational living, preventive medicine, when candidates for local offices need to be named. Physicians are now very active in philanthropic work, state and private, and figure prominently in the various conferences of relief, charity, social welfare, and civic-improvement organizations. The physicians have met the public half way, and even more, and have thus won the confidence that manifests itself, among other things, in their nomination and election to administrative offices.

I believe that physicians should take an active part in public affairs and identify themselves with the political party that the nearest represents their views, yet I do not believe in forcing medical societies into politics. I believe it to be a mistake to attempt, as a society, to influence political appointments until the society is recognized in such matters by law.

Everything considered, the individual member must be the foundation upon which to build an

organization which shall be of benefit to ourselves and to the public.

The interests of the physician must be protected, and he must be assisted in his efforts to place himself in a position to do his share for the good of all. At the meeting of the National Retail Druggists, somewhat over a year ago, the following was put forth as the opinion of one of their members:

"It is useless to talk about raising the standard to a man who cannot sleep because of a hungry stomach, and no essay on ethics or higher education can be used as a substitute for a square meal."

The elder Dumas in speaking of falsehood gave out the following: "When God said that falsehood was a sin he made an exception in behalf of the physicians, and permitted them to tell falsehoods as many times a day as they had patients."

These, to a certain extent, show some of the ideas held by those not of the profession. I believe that falsehood has no place among the

working tools of the physician. I also believe that the large majority of physicians can and do make large personal sacrifices of their immediate personal interests to advance the standing of our profession and to serve the public when such services are not appreciated by said public or the profession. Professor Chas. Williams, in closing his lectures on medicine in London, back in the '40s, uses language that it is well to consider even at this time. He said:

"It is the fashion to decry our profession—to call it a poor profession, a degraded profession. If it be poor and degraded, is that the fault of the calling or of those who practice it; or rather of those who should have governed and protected it? Is the art of healing in itself less noble because its practitioners, unsupported by the arm of civil power or too often unsustained by a consciousness of their own dignity, have not raised it to the place in society which it ought to hold? Poor it may be, slighted it may be, but degraded it cannot, shall not, be, so long as its foundation is science and its end the good of mankind."

## LATERAL CURVATURE OF THE SPINE: EARLY AND LATE CASES\*

BY A. J. GILLETTE, M. D.

ST. PAUL

This should not be called lateral, but rather rotary-lateral, curvature, because it is not simply a lateral deviation of the spinal column. If that were the case it would be a very easy matter to treat them. It is a rotation of the vertebræ and should be called rotary-lateral curvature, and when you take into consideration what an extreme amount of twisting there is, you will understand how hard it is to cure these cases or even to relieve them. In fact, the prognosis in curvature is usually this: you can check the deformity where it is. If a patient comes to you with considerable deformity, associated as it always is with rotation, it is impossible to untwist the vertebræ, and so it is impossible to overcome the deformity; therefore, if you check it you will do well.

In the early stages the deformity is so slight,

and you may be doubtful that it exists at all, that it is often overlooked, and you will say to the patient that it does not amount to anything—"it is a little weakness of the muscles"—and you say frequently to the parents that it does not amount to much, and then you do not see the case again for a long time. The chances are that the case may not come back to you at all, and if it does, it comes back with extreme deformity, as demonstrated by a case which I am able to show you today.

Lateral curvature of the spine is a deformity, not a disease. This is not a pathological condition causing deformity in the spine, the vertebræ and the ribs, but this is a symptom that there is something wrong. It is really the result of a condition, and it is necessary in examining the case to find the cause. It is not like Pott's disease, a disease of the vertebræ; it is an abnormality of growth. It is much more common

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.



in girls than in boys, and usually appears between the seventh and tenth years. It is rarely present at birth. I presume the large majority of these cases are due to disturbance of the nervous system, more especially anterior poliomyelitis. In the large majority of these cases the disease is of this kind, which affects the muscles of the back and the lower extremities and causes weakness, which brings about a serious strain on one side of the spinal column. We find these deformities in infants, in rickets or hip-disease or infantile paralysis where one limb is longer than the other. This will frequently produce lateral curvature. A person may have one-half to two inches shortening of one leg and yet walk so you would hardly notice it. This is not rotary curvature of the spine: it is simply a curve in the opposite direction in order to compensate for the shortness of the limb. In a growing child it means, sooner or later, a permanent and positive curvature. It may result in weaker children from bad desks in school, or from other causes. We are really not sure as to the cause of lateral curvature of the spine, as there are so many things that may produce it. Of course, sometimes it occurs in Pott's disease, but very rarely. Sometimes we get lateral curvature associated with sacro-iliac joint-disease.

The symptoms differ very much in the early stages of lateral curvature of the spine. Sometimes the first thing that the parents observe is that the child carries one shoulder higher than the other, or one hip is a little more prominent than the other; or they may say the son or daughter is round-shouldered. They do not have any pain, or any particular trouble.

I show you a case of lateral curvature of the spine which is not in the early stage. If we could divide it we would call it the second stage. The shoulder is brought forward, and there is not much difference. Both of these cases are brought on through rickets. There is the same deformity in all of them. Now, see in this case how little curve there is in the spine. It is mostly a rotation of the vertebræ. The vertebræ are twisted this way, and the ribs are bulged, and he has a very prominent scapula. This demonstrates why it should be called rotary, instead of lateral, curvature of the spine. While this child is not nearly so bad as the other, the first symptoms that appeared were that one shoulder was higher than the other, caused by a rotation; and this side dropped down, and a more prominent hip was developed on this side.

So in these cases of supposed weak spines, or where one shoulder or one hip is a little higher than the other, we can realize that usually, say nine times out of ten, it is the beginning of lateral curvature of the spine, and if you take the case right in the beginning you can check the deformity. That boy can never be cured. The best we can do is to stop the deformity where it is, and sometimes we are not able to do that. You see these cases many times where they have not been treated, and by just looking at them you might think it was a case of Pott's disease; yet you can see plainly the extreme rotation. Here it is well shown. The unfortunate part is that these deformities all keep getting worse during the lives. There never seems to be a time when they stop getting worse, unless treated. This case will have as extreme rotation of the vertebræ as the others. The ribs will be depressed, and the twisting of the vertebræ will cause an extreme prominence or bulging of the chest-wall. There was a time when this boy had one shoulder just a little higher than the other, or one hip a little higher than the other, that was not attended by any pain—nothing particular to attract attention—and it was a very natural thing to say that he would outgrow it. But had you taken his shirt off and found there was an enlargement here far beyond the amount of the natural curve, then you would have realized there was rotation taking place. There must be room in there for his heart and lungs, and as the spine presses forward there is a bulging of the chest. You discover some of these cases only by taking their clothes off in the early stages and examining them, otherwise you probably would not observe it. This condition is frequently referred to as a spinal disease, and it goes by that diagnosis. It is not a disease—it is not Pott's disease, it is not a disease of the vertebræ at all—but it is purely a deformity from various causes and usually begins in the way I have indicated. Here are his floating ribs inside of the pelvis just below the crest of the ilium. Sometimes these cases go on to such extreme deformity that they have a great deal of pain in the pelvis. I saw one person where the pain was very serious, due to a rib pressing on the pelvic organs.

I have given the early symptoms: the late symptoms are here present in this terribly deformed boy. The treatment depends upon the stage in which you discover the deformity and the cause of the deformity. (Applause.)

Dr. A. L. Baker: Do you meet more of these cases of curvature of the spine in later years, and if so, can it be traced to our present method of study that children are compelled to follow in our public schools at the present time? I think those of us who have followed the public schools in the last few years have noticed the evils following the method of study pursued, in which there is so much writing done from the primary grades clear through to the high school, and

it has occurred to me it might have a tendency to stoop shoulders and other disorders.

Dr. A. J. Gillette (Essayist): That might be a contributing cause, but it is not due to the school room. Anyone who has treated these cases and has tried to hold them in plaster casts will realize that they are not making much headway with the wriggling school-boy. We have more cases these days of infantile paralysis and more cases of rickets and I think that is the reason it is on the increase.

## A TEST FOR ALBUMIN IN THE URINE

HENRY L. ULRICH, M. D.

MINNEAPOLIS

It is with much hesitancy that I publish this method; indeed, the glaring number of tests which have found their way into text-books made me hesitate for some years. The reaction against this multiplicity which the simplicity of my test fully justifies, has at last aroused me to offer it to the readers of *THE JOURNAL LANCET*.

Accuracy, delicacy, simplicity are the essentials of any clinical method. It is needless to enter into a discussion why one or another test for albumin is selected. It is only fair to add, however, that out of the disturbing number of tests given by the equally confusing number of authors, the latter usually select and advocate the simpler forms based on the heat or contact principles. Without going into the various modifications of these I will describe my method.

In anticipation I will say that by this technic the extra work of having a control or the filtering of the urine or the modification of its reaction has been eliminated.

Substances needed for the test:

Saturated salt solution.

Acetic Acid.

Test-tube.

Pipette.

Heat.

On heating urine three substances may be thrown down: albumin, nucleoproteid and phosphates.

About 5 to 10 cc. of saturated salt solution, slightly acidulated with acetic acid, is heated to boiling in a test-tube. The urine to be tested is carefully allowed to run on top of the hot salt solution by means of the pipette. In order to make a good picture, the quantity of urine used ought to equal that of the salt solution.

By means of the heat in the saturated acidulated salt solution the above-mentioned substances

are likely to be precipitated, but, owing to the contact, the saturated salt will not let the nucleoproteids appear, while the phosphates are also held in suspension by the acid; hence nothing can appear at the point of contact of the hot saturated salt with the urine except albumin.

Depending on the quantity of albumin present the reaction will be marked or only a film will appear overlying the clear crystal-like salt solution. It is in urine with a trace of albumin in which this test shows extreme delicacy. The clear crystal-like salt solution and the control-column of urine above with the surface of contact contrast decisively in distinguishing a delicate cloud.

Different pictures are produced in the great variety of urines by means of this technic.

1. In clear urine which contains no albumin the delicate point of contact where the urine rides the hot salt solution, is better brought out by setting the solution in motion by gently shaking the tube to and fro.

2. In clear urine sometimes a cloud appears some distance above the point of contact. This is due to the heat, which, traveling farther and faster than the acid of the salt solution, throws down a phosphate cloud.

3. Cloudy urine due to phosphates or urates is cleared at the point of contact because the acid and the heat dissolve these, respectively.

4. In cloudy urine due to bacteria no change is seen in the urine at the point of contact, and here, at times, only a close scrutiny of the urine above the crystal-like salt solution below in comparison with the zone of contact will give us the correct reading.

5. In urine containing albumin clouded by urates or phosphates, the albumin cloud at the contact differs in density from the remainder of

the urine. Often the film of coagulated albumin is so delicate that the clearing of urates or phosphates is again seen above that of the contact zone.

6. In albuminous urine clouded by bacteria the coagulated albumin at the point of contact accentuates its presence by its difference in density.

It is in cloudy urine that the control of a clear crystal-like liquid below the urine above, emphasizes the beauty of the reaction in the zone of contact.

This test is a modification of the saturated salt, or brine, test, yet it adds to this old method the new qualities of diminished labor, simplicity, and accuracy.

## BECK'S BISMUTH PASTE-TREATMENT, WITH A REPORT OF NINE CASES\*

By EMIL C. ROBITSHEK, M. D.

MINNEAPOLIS

In bringing this subject before you I realize that I can add little to what has already been written upon it, yet the vast importance of its therapeutic results, has prompted me to review it and report my experience with it.

Realizing that the results obtained in the radical treatment of tubercular sinuses, were, as a rule, unsatisfactory, and that these poor results were, in a great measure, due to the inefficiency of the methods of diagnosing the origin and course of these tracts, Dr. Emil G. Beck, of Chicago, began, in 1906, to look about and seek more efficient methods.

Up to this time the probe and the injections of hydrogen peroxide and colored fluids, such as methylene-blue, had been used for diagnostic purposes, but for obvious reasons without much improvement in aiding curative results. Knowing the resistance of bismuth salts to the penetration of the Roentgen rays, Beck began, for the purpose of diagnosis, the injection into these sinuses of a mixture of bismuth subnitrate and vaseline, and then took radiographs of the same. The results were surprising. The whole tract from its origin to its termination, straight or tortuous, with all its branches, side-tracks, and ramifications, was clearly shown in the picture. In June, 1906, Beck demonstrated his method to the Chicago Medical Society, and clearly showed how, by such a diagnostic method, the surgical procedures would be simplified, inoperable cases distinguished from operable ones, and better results obtained.

While employing this method for diagnostic purposes he observed that these injections were also very valuable in closing the sinuses. Sin-

uses so injected were noticed to stop discharging, and what at first was thought to be only temporary, proved to be a permanent cure. The first report of cases by Beck was in January, 1908, before the Chicago Medical Society, where he demonstrated ten cases, all of which remained cured up to date.

In a recent paper before the International Congress on Tuberculosis he reported 192 cases as follows: Sinuses following—

	No. cases	No. cured	No. impr.	Not imp.	No. died
Pott's disease.....	26	13	9	3	1
Tuberculosis—					
Of the iliac bone..	7	7	7	..	..
Of the hip-joint..	43	21	19	2	1
Of the knee.....	5	4	1	..	..
Of the ankle.....	4	3	1	..	..
Of the fascia and muscles .....	3	2	..	1	..
Of the jaw.....	1	1	..	..	..
Of the kidney....	7	5	2	..	..
Of the glands....	6	4	1	1	..
Osteomyelitis—					
Of the femur.....	12	6	6	..	..
Of the tibia.....	4	3	1	..	..
Of the humerus...	3	1	2	..	..
Of the ulna.....	2	2	..	..	..
Of the hand and wrist .....	4	4	..	..	..
Of the ribs.....	6	4	..	2	..
Of the accessory sinuses .....	6	3	3	..	..
Empyema of the chest .....	19	14	4	1	..
Abdominal operations	16	13	1	1	1
Fistula in ano.....	18	13	5	..	..

\*Read before the Minneapolis Medical Club, January 20, 1909.



Of these 192 cases, 123 cases, or 46 per cent, were healed; 55 cases, or 28.5 per cent were improved; 11, or 6 per cent, were unchanged; and 3 cases died during the period of treatment.

In the Lancet-Clinic (Cincinnati) December 26, 1908, Pennington of Chicago, reports 17 cases of fistula in ano, so treated; 13 of which stopped discharging, the other four being still under treatment. E. Ochsner, of Chicago, in the Journal of the Michigan State Medical Society for August, 1908, in an article entitled the "Treatment of Joint Tuberculosis," reports on 11 cases treated by Beck's method, one cured by one injection, two by five, and the others still under treatment. In the Pennsylvania Medical Journal of November, 1908, Wm. Beach reports his success in treating fistula in ano by this method.

At the recent meeting of the American Orthopedic Association held in Chicago, the subject was discussed by the foremost orthopedic surgeons of the country, and held by them to be the most important contribution to orthopedic surgery presented at the meeting.

In a discussion of a paper on Beck's bismuth paste treatment before the Chicago Medical Society at its meeting held November 11, 1908, Dr. A. J. Ochsner spoke as follows: "I have employed this method in about 20 cases of old tubercular sinuses. *The possibility of application of bismuth paste is so great, and the proportion of satisfactory results from it so large, that I look upon it, in appropriate cases, as the most important advance in surgery that we have had during the past two years.* I have applied the mixture in practically every part of the body, with the exception of some special parts, like the nose. I have had patients with old empyemas communicating with a bronchus, operated and re-operated on many times, and within six or eight weeks healing has taken place and has been permanent by the use of bismuth mixture. I have had a case of fistula leading down to the pancreas from a gastrectomy which persisted in discharging and which healed after a few weeks following injections of bismuth mixture. I have had cases of prostatectomy with persistent fistulas, that were treated with bismuth mixture with satisfactory results. I have had two cases of sinuses leading down to tubercular kidney in which a cure was effected. One of the patients gained forty pounds since the first injection." (Journal A. M. A., Vol. LII, No. 2., p. 157.)

The formula used is as simple as the technic. For diagnostic purposes and for the first few

injections the following formula is used:

Bismuth subnitrate (arsenic free) . . . . 30.0  
Vaseline . . . . . 60.0  
Mix while boiling.

For the treatment of cases of long standing the following is used:

Bismuth subnitrate (arsenic free) . . . . 30.0  
Wax  
Soft paraffine (120° melting-point) aa. 5.0  
Vaseline . . . . . 60.0  
Mix while boiling.

To the formulæ  $\frac{1}{2}$  per cent formalin may be added, but in my limited experience with this treatment I have not found it necessary or believe it adds especially to its efficacy, and Beck informs me that he also discontinued the addition of formalin or iodoform.

The area about the opening of the tract or cavity to be injected, is well cleansed with alcohol. A special glass syringe with a urethral tip and the paste are sterilized in a steam sterilizer. No previous treatment of the sinuses is at all necessary. The paste while in a liquid state is drawn up into the syringe, and while not too hot, but yet of a very soft consistency, is injected into the tract, pressing the syringe firmly against the opening of the injected tract so that the paste does not escape. The injection is continued until the patient complains of slight pressure when it is stopped, and a sterile gauze sponge is placed over the opening, held there firmly a few minutes, allowing the paste to harden, and then snugly bandaged. If in four or five days the discharge still continues a similar injection may be repeated. Often, however, one injection will suffice.

Beck claims that all sinuses except biliary, pancreatic, or cranial, may be thus treated with good results. Although he has not, in over 5,000 injections, seen a case of typical bismuth poisoning, he says the method, knowing the toxic effect of bismuth in large doses, may not be free of danger. He has since published an article on bismuth poisoning (Journal A. M. A., January 2, 1909).

Recently in the Centralblatt für Chirurgie (Leipsic), October 31, 1908, Eggenberger reports that while employing Beck's method with good results, they met with a case in which bismuth poisoning proved fatal—a boy, seven years of age, in which a spondylitic fistula was injected with 30 grams of a 50 per cent bismuth paste, but who in six weeks thereafter developed toxic symptoms, proving fatal. This is the only fatal case on record, so far as I

have been able to find out, directly due to these injections.

Large quantities may be injected, but not over 100 grams. If the space demands more, says Beck, lessen the percentage of bismuth accordingly.

The symptoms of bismuth poisoning are acute stomatitis, black border around the teeth, dark discolorations of mucous membrane, albuminuria, diarrhea, and desquamative nephritis. Sometimes after the injection, a rise of temperature of a degree or two may occur, but this soon disappears.

Beck further claims to prevent sinuses and fistulae by this method. After rigid aseptic measures a cold abscess is incised, making only a small opening and evacuating the pus, then injecting a 10 per cent bismuth paste in its place, and not closing the opening but dressing aseptically. I have used the method in one of my cases.

The bismuth injected will, as a rule, escape into the dressing, but if retained in bone cavities it will be slowly absorbed and replaced by connective tissue. In cavities with rigid walls, such as bone cavities, according to Beck, it forms connective tissue, and in cases of empyema of the lung it is gradually replaced by lung-expansion. This he has proven by microscopic, skiographic, and physical examinations.

Being encouraged by these reports of good results I undertook to try this method, and I desire here to report briefly the cases so treated.

#### CASES

CASE 1.—A. H. entered the City Hospital on June 29, 1908, single man, age 36. Family history, negative, also personal history. He sustained a compound fracture of right leg on June 29, 1908. Operation performed; bones wired October 13, 1908; had an operation for removal of the sequestrum, the result of the fracture; sequestrum removed and the bone curetted. Wound never quite healed, but kept on discharging until October 28th. One injection cured the sinuses entirely.

CASE 2.—J. S., aged 29, single, bartender. He entered the City Hospital October 19, 1908. Diagnosis of delirium tremens; developed pneumonia and empyema; operated upon for the latter November 3, 1908, one rib resected, pus drained by two drainage-tubes, wound discharging daily. On December 27, 1908, first injection made; wound healed except at upper corner, discharging only a small amount of pus. January 4, 1909, second injection, no discharge since, sinus healing.

CASE 3.—Mrs. L. entered the City Hospital October 14, 1908, operated upon for ventral hernia October 16, 1908. Patient very fat and developed a stitch abscess in fatty subcutaneous layer, which abscess became

larger and larger. Two injections of bismuth paste entirely healed this abscess cavity.

CASE 4.—Mr. P. D. entered St. Barnabas Hospital October 5, 1908. Operated upon for appendicitis October 7, 1908; adhesion very extensive, resection of bowel necessary. Patient developed a discharging abdominal fistula. About a month after the operation I made the first injection of bismuth paste and a few days later the second. The tract healed entirely and the patient was discharged from the hospital.

CASE 5.—Miss E., aged 20, single; father died of diabetes, mother of pneumonia; no tubercular history in the family. Three and a half years ago while roller-skating she fell, and soon after an abscess developed in her left leg so that an amputation was found necessary. In the right leg about four inches below the knee a tubercular sinus was curetted out. She entered the City Hospital October 27, 1908, the stump of the amputated limb discharging. The probe entered a bone sinus for three-fourths of an inch. The right leg was found also discharging from a sinus leading below the muscle and fascia. The bone could not be touched with the probe; both sinuses were injected, the stump sinus healing under one injection, the other sinus under three. Since then I have opened a tubercular abscess of the sternum in this girl by a small incision, allowing the pus to escape and immediately refilling the cavity with this paste. This abscess is now rapidly improving.

CASE 6.—Mr. R., aged 36, married, office clerk, entered St. Barnabas Hospital. Diagnosis, appendiceal abscess; opened and drained. He left the hospital in 14 days and was at home for four weeks. A sinus continually discharging pus failed to close. On April 30, 1908, a small stone worked itself out of the sinus. In May the sinus was curetted, and in June was again operated upon, but did not result in closure. Operated on again to close sinus on Sept. 3rd, but without improvement. In November I made the first injection of bismuth paste; the discharge decreased in amount, in a week another injection was made with closure of sinus, which has remained healed up to a few days ago (five weeks after injection), when he developed a rise of temperature and a swelling over the site of the sinus. The swelling was incised and a large amount of pus evacuated, possibly some dead tissue, or the appendix itself is the cause of the discharge.

CASE 7.—C. A., aged 12. Father died of pneumonia at age of 35; mother 50 years of age and well; one brother died seven years ago of appendicitis; two brothers and three sisters are living and well. Has had measles and diphtheria. Last September he was taken sick with appendicitis and operated on; was in bed five weeks, with drainage-tube inside. On January 1, 1908, the wound closed, but broke open again in a few days. Entered City Hospital, where I saw him the following day and injected a bismuth paste mixture into a sinus following appendiceal operation. Since then he has had three such injections, with a gradual decrease in the amount of discharge, until now the sinus is closed.

CASE 8.—A. V., aged 38, single. Father and mother are dead, cause unknown; two sisters dead of pulmonary tuberculosis; one brother living and well. Has never been sick before. While plowing he was struck by

the plow handle, injuring him in the right groin so that he took to bed and was lame in the right leg for about four months. Then a swelling appeared in that region, which was incised and drained. Since then abscesses have broken out in the other groin and on the right leg. The sinuses were five in number when I first saw him. The sinus on the left groin led down into the bladder, the others leading down under the muscle and fascia. The first injection of bismuth was Jan. 1st; since then one every three or four days, with gradual improvement and closure of some of the sinuses. This man was also treated by vaccines by Dr. H. L. Ulrich, with a decided improvement in his general condition.

CASE 9.—V. H., aged 25, tailor, married. Father living at age 50; mother died at age of 45 of stomach trouble; one brother died in infancy; one sister aged 27 living and well; wife well. Has no children. He had measles and whooping-cough at age of five years. Had smallpox at age 22, with which he was sick for ten days. Denies specific disease. Ten months ago had backache and went to a fake medical institute for electrical treatment. A sound passed into the bladder infected the same. His condition grew worse until he consulted a physician, who made a perineal incision and drained the bladder. This bladder fistula had failed to close, but is improving gradually under bismuth paste injections, he having up to this time had about seven injections. This patient also received vaccine treatment by Dr. Ulrich, in connection with his other treatment.

In conclusion I would like to impress upon the members of the profession the wide range of usefulness of this treatment; its simplicity and harmlessness; its splendid therapeutic results, recognized as such by some of the leading and specialty surgeons of the country, who have tried it; and its inestimable value to the patient in whose case it can be found of practical use, not to mention the saving, in such a case, of a surgical operation and a general anesthetic.

I would advise, in all cases, that the vaccine treatment be given in conjunction with the bismuth paste injections. The results will show a more rapid cure in every case.

I hereby wish to extend my thanks to the staff surgeons of the City Hospital, who placed their patients at my disposal for the use of these treatments; to Dr. H. L. Ulrich for his interest and assistance in giving vaccine treatment; and to Dr. Emil Beck for the loan of the slides which I am able to show this evening.

Note.—A case is reported by Dr. C. H. Mayo on the first page of this issue, in which the Beck paste was used.—THE EDITOR.

## XERODERMA\*

BY GEORGE P. CRUME, M. D.

MINNEAPOLIS

About a month or six weeks ago I was asked to present a clinical case, and I found some difficulty in deciding what it should be, because most of these cases will get well in a month or six weeks. For that reason I shall present to you a case of xeroderma. Another reason is that some doctors have promised to cure this little boy, a thing I believe to be impossible. There is a congenital defect in the development of the skin, especially in the epidermal layer.

There are three varieties, two of which are general, and one of which is local. The two general varieties are known as *xeroderma* and *ichthyosis simplex*, and the other variety as *ichthyosis hystrix*. These cases of *ichthyosis* in the mildest and most common form are called xeroderma. The symptoms are a dry and harsh condition of the skin. The skin is scaly, and the condition is worse in the cold season. The etiology of the disease is not understood. We know nothing more of it than that it is a congenital deformity, which, most frequently, is shown early before the patient is one or two years old, and

would probably be manifest still earlier were not babies dressed quite warm, thus increasing perspiration, so it is not recognized until the patient is several months old, although sometimes it is evident at birth. On account of the increased thickening of the horny layer the skin is much more dry and harsh than normally.

The pathologic condition is another point of much interest, and that is that there is not much involvement under the dry skin, except in the papillary layer, where we find an inflammatory thickening about the vessels and changes in the connective tissue of the corium. In the epidermis we find a change in the horny layer. It becomes thicker, hence the name fish skin, or *ichthyosis*.

The prognosis is bad so far as a cure is concerned. There has never been a case cured. There have been two or three cases reported that got well as a result of some intercurrent disease. Following measles, in one case, the condition disappeared; and in another case, *ichthyosis hystrix* disappeared after an attack of scarlet fever.

If you have a hard, dry, scaly condition of the skin it is much more subject to inflammation, especially eczema, and manifests itself during

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.



cold weather, practically in exposed parts. For this reason probably the best result is obtained by sending patients to a warm climate. In a warm and moist climate they are usually very comfortable. This patient is not as bad as he would be if it were colder, or as he will be during the cold weather. The father has spent considerable money with doctors who have promised to cure him. The treatment is not of much use except as a palliative measure. Pilocarpine, also thyroid extract, internally, will help about clearing up the eczematous conditions. Local treatment does most to cure these patients. We find that baths and unguents are most beneficial in such cases. Giving them baths or hot-bran baths and keeping the skin in a moist condition gives the best results. By doing this and anointing the skin we can keep it pliable and soft. In many

cases the skin will assume an almost normal appearance that will continue for some time, but on stopping the treatment the patient gradually lapses into the original condition. Take olive oil, vaseline, cold cream—they all give very good results. This should be done daily or every other day to keep the patient in good condition. For the hands and face an application of one part of glycerine to ten parts of rose water acts very nicely.

I do not know anything else I can say to you in regard to this condition. I would like to have you examine this boy, but you will find there is nothing marked about his condition except the skin is harsh, dry and scaly. In many cases of xeroderma the inner surface of the skin appears to be quite normal, although it is not, because the disease involves the entire surface.

## MORBID ANATOMY OF HEART\*

By H. A. TOMLINSON, M. D.

ST. PETER, MINN.

We have a good opportunity, in our work, to see the effect of changes in the heart and blood-vessels, and also the opportunity to study the difference clinically between the supposed and the actual significance of these changes, and the murmurs they are said to give rise to. These observations have led us to believe that the changes in the heart-muscle are more important than deformity of the valves, and that murmurs are more dependent upon muscular incapacity than the result of valvular change.

I have selected three hearts as illustrating the different degrees of change in the muscle—the valves, the endocardium, and the blood-vessels.

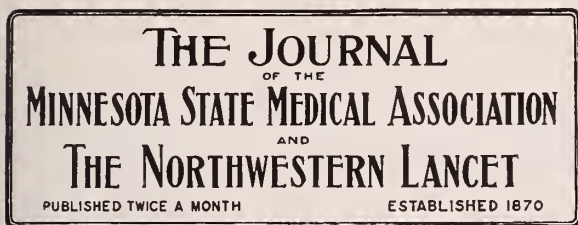
The first is a senile heart, the patient being 87 years old. The changes are most marked in the endocardium, the mitral valve, and the aorta. The muscle is in fairly good condition, and the right side is hardly affected. I might add that the escape of the right heart had a great deal to do with the patient's longevity.

The second heart illustrates an exaggeration of the conditions present in the first one, and the changes are pre-senile, as the man was 58 years old. You can see that, while the changes are similar, they are more marked and extensive, and the involvement of the muscle is greater. Here, too, the right side of the heart is involved.

The third heart, from a man under 35 years, shows even more extensive changes, involving particularly the endocardium and the aorta. The fibrosis is extreme, and the valve-cusps are very much thickened.

The clinical significance of these conditions is not fully appreciated. It is pretty well understood that there are three varieties of arteriosclerosis; or rather, that it differs in its distribution: the superficial, splanchnic, and cardiocerebral. Persons with peripheral arteriosclerosis may live to a good old age, with little evidence of illness; while, if the splanchnic area or the cerebral blood-vessels are involved, death may come suddenly at any time. It is only when the splanchnic area is involved that there is a permanently raised blood-pressure and degenerative changes in the kidneys; while in cerebral arteriosclerosis the heart suffers most because the coronary arteries are most involved, on account of the engorgement from the back pressure, which is direct. The condition of the heart-muscle is the important fact for us to determine, and particularly the condition of the right heart, as indicating its capacity to compensate, temporarily, the strain upon the left ventricle. Murmurs by themselves mean nothing, but it is absolutely necessary that we should learn to judge the capacity of the heart-muscle by its sound and the character of the impulse.

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.



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## SPECIAL ANNOUNCEMENT

The editor of THE JOURNAL-LANCET has frequently called attention to the fact that the secretaries of the county and district societies are not sending in reports of the time, place, or character of their meetings.

The Secretary of the State Association, Dr. McDavitt, has repeatedly urged upon the editor the necessity of getting better and quicker responses from the secretaries. Unless this be done, the yearly transactions will be incomplete.

A few of the secretaries are active and send in brief outlines of their meetings. Many of the secretaries clip from their home newspapers the accounts of their meetings and send them in as official news. As a matter of fact, this sort of reporting is not satisfactory to THE JOURNAL-LANCET or to the State Secretary, and unless some more interest is taken, the matter will have to be brought before the State Association and stringent rules adopted.

The State Secretary has prepared, and has already furnished to the local secretaries, blanks for this purpose, and if the reporting is done at the time of the meeting, it need take only a very short time.

THE JOURNAL-LANCET has set aside a department in its pages for the official reports of all

societies, but one glancing over the average report is not particularly attracted by it. A society that meets once in every three or four months, ought to have a program prepared sufficiently early to publish in the JOURNAL so that outsiders might be able to attend the meeting, but, as a rule, the program is sent in two or three days before the expected meeting and too late to be published.

A wide-awake, interested secretary can make or break a society, and it would seem as if one would have pride enough to fulfill his obligations.

THE FRATERNAL AND SOCIAL SIDE  
OF MEDICAL SOCIETY MEETINGS

Someone suggested to the editor that it would be a good plan to appoint a special committee in every large medical society to see that new members are introduced and looked after.

In societies like the Hennepin County, the Ramsey County, and the St. Louis County, the membership is large, and the new and younger men who come into the organization are not infrequently overlooked. There should be the same fraternalism and social intercourse in a medical society as there is in a lodge or club, and it should be the duty of a committee or an individual to introduce every new man who comes into the society and to see that he feels at home, that interest is taken in his new venture, and that he meets all the men who have been previously unknown to him. This general introduction would make us all come a little closer together, and would further cement the companionship and cordial relations between doctors.

Doctors are usually looked upon as a queer lot of men, and they are often excused from small misdemeanors and their failure to recognize their social obligations, on the ground that they are busy, thoughtful, and scientific in their ideas and manners. This is largely an absurdity. The average doctor acquires, or assumes, a manner which is not altogether natural, but when he comes into closer communion with his fellow men, he drops his garb of so-called distinction and shows himself as he really is—a good fellow and a gentleman.

The Hennepin County Medical Society is now the largest in the state and has about 280 members, and it is very difficult and

sometimes impossible to remember all of the newer men who apply and who are admitted into the society. Under such circumstances it would be well to adopt some means whereby the new member is made more welcome; and a personal, lively interest is the only means of securing this very desirable state of frater-nalism.

### PROGNOSIS IN INSANITY

The student of mental diseases is frequently asked as to the probability of recoveries among the insane. The question is a very difficult one to answer as it means the consideration of everything pertaining to the life-history of the individual, the conditions under which insanity occurred, and its onset and cause.

Fortunately, a large number of insanities are of the recoverable type, notwithstanding the very active manifestation of all forms of depression or excitement; and now that we understand the general relationship between physical disorders and abnormal mental manifestations, in a large proportion of cases it is much easier to define a prognosis.

Even in the cases which occur in young adults and are looked upon as dementia pre-cox, or acute dementia, in which catatonia is a marked symptom, recoveries may occur in the apparently most advanced cases. It is not safe to assume, even when the mental disorder has lasted for several months, that the patient will not recover, as there are many instances on record of tardy recoveries which have taken place in from four to twelve years.

Petren, in the *Nordiskt Mediciniskt Arkiv*, Stockholm, has collected 34 cases in which patients, after being absolutely insane for from four to twelve years, were completely restored and had no recurrence. He states, that among other forms of insanity from which apparent recoveries had been made, dismissal from asylum-life, after a long period of time, had aided even paranoiacs materially in their final recovery. With our present knowledge of paranoia, this seems almost incredible, but, undoubtedly, there are exceptional cases in which the patient recovers a balance that is practically normal.

In some cases cited by Petren, divorces have been obtained on the ground of "incurable insanity," and much embarrassment was occasioned by the long-delayed recoveries in a few instances. Hence, it is wise to give a guarded prognosis in all forms of insanity that are usually looked upon as incurable, and par-

ticularly in those forms which continue from eight to eighteen months before recovery takes place. We hear very often of a bad prognosis given at the very onset of an acute attack, and not infrequently this is absolutely unjustified by the subsequent recoveries.

There is much more hope for the young adult who develops an acute demented state than was formerly supposed. Many of these people come from farming communities and are the victims of overgrowth, hard work, and perhaps an unfortunate environment, and who, from sheer exhaustion, become depressed or demented. These people should be classed among the possible curable forms, and a good prognosis should be entered unless there is very good evidence that it is out of the question.

One element of the prognosis of insanity that should be very carefully considered, is a persistent suicidal tendency. It is safe to assume that no patient who has made frequent attempts at suicide is ever safe from a recurrence of the attack. A few, however, apparently recover, but they should be carefully supervised and as carefully watched after their seeming restoration as before. There are many instances on record, or what are recorded in the daily press as accidental deaths, that are undoubtedly due to the pre-meditated suicide. It would be much more charitable to throw the mantle of mental disorder over these unfortunate people, rather than to accuse them of having committed suicide without being insane.

### DANGEROUS LEGISLATION—WRITE AT ONCE.

Your attention is called to the fact that House Files No. 384 and No. 244 are before the legislature for immediate consideration. Both of these bills are for the purpose of licensing all forms of hybrid practices, such as the "chiropractics," the "neuropsychics," and others of the same type.

These people are not practicing legitimate medicine. They belong to the great army who advertise and who promise to cure all forms and sorts of diseases by unscientific methods, and they are no more entitled to special legislation than are the other quacks who advertise in the newspapers.

If you will sit down at once and write to your representative, explaining the viciousness of these bills, it may be possible to kill



them both, either in the Committee or in the House. Perhaps it will be well for you, in your letter to your representative, to explain the time spent in and the laboriousness of your preparation, your study, and work in medical colleges, and the purpose of the state examination, and the license. And explain, further, that the man who goes into these various unscientific fads is neither prepared nor qualified to administer to the sick. It would also be well for you to take the ground that the family physician is the confidant, adviser, personal friend, and the protector of the family; and that you do many things to preserve the public health and prevent diseases for which you receive no compensation, while the advertisers and the one-idea men collect their pay in advance and otherwise interfere with your personal work, and interfere with matters pertaining to the public health.

It is most important that this matter be taken up at once, and you are urged to write fully to your representative. An influx of letters from all over the state will probably kill the bills at once.

Here is a good opportunity to demonstrate what medical men can do by concerted action.

## REPORTS OF SOCIETIES

### CLAY-BECKER COUNTY SOCIETY

The Society held its annual meeting at Moorhead on January 25th.

Papers were read as follows: "Surgical Treatment of Gall-Stones," by Dr. D. C. Darrow, Moorhead; and "The Treatment of Appendicitis," by Dr. O. J. Hagen, Moorhead.

The application of one new member was received. The Society was reported by the Secretary to have twenty members in good standing, and he also reported that all but four doctors in the two counties were members so far as he knew, and one of these had applied.

The next meeting will be held at Moorhead, April 26th.

The resolution of Dr. Andrews, relating to division of fees, etc., was endorsed and so recorded.

The resolution of the State Society relating to medical defense was unanimously endorsed, and the delegate was instructed to vote for the measure.

The following officers were elected: Pres.,

Dr. W. H. Aborn, Hawley; vice-pres., Dr. Th. S. Egge, Moorhead; sec'y-treas., Dr. E. R. Barton, Frazee; censor for 3 years, Dr. J. E. Carman, Detroit; delegate for 2 years, Dr. W. J. Awty, Moorhead; alternate for 2 years, Dr. F. H. Alexander, Barnesville.

### ABERDEEN (S. D.) DISTRICT SOCIETY

A public meeting under the auspices of the Aberdeen District Society was held in Aberdeen, on the evening of Jan. 19th.

Dr. M. C. Johnston read statistics on small-pox and vaccination and Mr. Bassett of Minneapolis, representing Parke, Davis & Co., gave a talk on the preparation of vaccine and anti-toxine. The lecture was illustrated by photographs enlarged by a stereopticon. The people were apparently very much interested.

After dismissing the public, the annual meeting was held, at which the dentists, druggists, and graduate veterinarians were present as guests. There were twenty-eight members present.

Dr. W. E. Clark, of Frederick, read a paper on "Ankylostomiasis." Dr. H. I. King, of Aberdeen, read a paper on "Intestinal Parasites," which was discussed by Drs. Edwards, Still, and King.

Dr. H. J. Rock delivered the President's Annual Address, selecting for his subject "Peritonitis."

The following officers were elected for the ensuing year: President, Dr. M. C. Johnston, Aberdeen; vice-president, Dr. Daniel Geib, Groton; secretary, Dr. A. A. Sornsen, Aberdeen; treasurer, Dr. W. E. Clark, Fredrick; censor for three years, to succeed himself, Dr. H. E. McNutt, Aberdeen.

A. A. SORNSEN, M. D., Sec'y.

### BLUE EARTH COUNTY SOCIETY

The Society met in Mankato on January 25th, with ten members present.

A paper was read by Dr. A. G. Liedloff on "Causes of Sudden Death, Following the Use of Various Sera, Especially Diphtheria Antitoxin."

The Society voted in favor of the adoption of the report of the Committee on Medical Defense of the Minnesota State Medical Association.

T. C. KELLY, M. D., Sec'y.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. A. J. Simpson, of St. James, has moved to Minneapolis.

Dr. Claude L. Haney, of Duluth, was married last month to Miss Elsie Foulk, of Duluth.

St. John's Hospital of Red Wing, will build a \$15,000 addition to its present hospital structure.

A bill has been introduced in the state legislature, which, if passed, will prevent fake medical advertising.

Dr. V. E. Verne, of Parkers Prairie, was married last month to Miss Charlotte A. Granell, of Minneapolis.

Gov. Johnson has reappointed Dr. H. C. Leonard to membership on the State Board of Medical Examiners.

Dr. W. J. Brownlee, of Devils Lake, N. D., was married last month to Miss Elizabeth A. Risher, of Brazil, Indiana.

The St. Paul Dispatch has announced that it will no longer receive the advertisements of quack doctors and remedies.

The temporary hospital buildings for the State University will be ready to receive patients, some time next month.

Dr. H. H. Towler, of Bismarck, N. D., has gone to Johns Hopkins for post-graduate work. After his course, he will locate in Great Falls, Montana.

The staff of Asbury Hospital, Minneapolis, has under consideration a plan for a Study Club to investigate the literature of methods of practice and surgery.

The success of the first year of our State Sanatorium for Consumptives has been so marked that the present legislature will be asked for \$150,000 for additional buildings and \$50,000 for maintenance.

The North Dakota State legislature invited Dr. J. C. Grassick, of Grand Forks, and Dr.

G. F. Ruediger, of the State University, to address the two houses, in joint session, upon the prevention of tuberculosis.

Of 1,400 school children examined by medical inspectors in two Minneapolis schools last year, only 11.4 per cent were found to be in perfect health. Nearly 500 pupils received treatment as the result of the inspection, and the sanitary condition of many homes was improved.

The Ramsey County Medical Society held its annual session last month, and elected the following officers: President, Dr. Arnold Schwyzer; vice-president, Dr. E. F. Geer; secretary and treasurer, Dr. Frederick Leavitt. The increase in membership during the year was thirty-four.

The Cass County (N. D.) Medical Society, met in Fargo last month and sent a protest to the legislature against a bill which provides that no liquor shall be sold by druggists except upon a physician's certificate. The physicians object to assuming responsibility of this kind. This method of selling liquor has been a farce in other states, and the protest is right and timely.

The State Board of Medical Examiners has revoked the license of Dr. Arthur C. Moorhead, who conducts the Dr. Nelson Medical Co. in Minneapolis and the Dr. Charles Medical Co. in St. Paul. The Board has also the even more notorious and disreputable Heidelberg Medical Institute, of St. Paul, in the courts, a case against it now being in the Supreme Court.

The politicians of Iowa are endeavoring to frame and pass a law that will prevent medical societies adopting uniform fee-bills. The Iowa courts have decided such adoption of fee-bills is not contrary to the state's anti-trust law. The doctors, both in and out of the state, might do well to get a law that will compel obedience to a fee-bill that will keep doctors out of debt.

An unusual feature of medical journalism will be presented in the March issue of the American Journal of Surgery. The entire original subject matter in this issue will be contributed by New York City surgeons of note, and a number of new operations will be first presented therein. The men contributing are so well known that the issue will be an exceedingly valuable one, and our readers will do well to send for it.

Dr. Clara M. Luther, of Minneapolis, has gone to Europe for several months' study. Dr. Luther is a graduate of Hamline, class of '01. She has become interested in suggestion and will spend a good deal of her time in France in an institute conducted by Dr. Bonheim. She hopes in the clinics of the institute to learn the scientific basis of cure by suggestion, if it has any. She will also study the English and German method of public school inspection.

The Northfield District Nursing Association has been organized, and is now ready for active work. Its purpose, as announced in its constitution, is "to provide the services of one or more trained nurses whose duties shall be to visit sick persons deprived of proper care; to care for them in their homes; to give them such attention as is needed, and to instruct members of the household in the simple rules of hygiene. It also plans to provide an assistant nurse for the hospital, if desired."

The street railway company of St. Paul recently got up a fake accident, with a moral. A woman detective was brought from Chicago, put on a car occupied by the company's detectives, and at a fixed location she alighted, tripped and fell. An ambulance was called and she was taken to a hotel. In a day or two a certain lawyer whom the company was after called upon the victim, got the case for damages against the company, furnished the witnesses, lay and professional, and began the suit. When the case was well under way, the ready-made witnesses and the doctors having testified, the company showed its hand, and there are some anxious witnesses and experts wondering what the United States grand jury will do. The moral is plain.

A reading notice is appearing in the columns of many country papers to this effect: "In this issue appears the advertisement of the Heidelberg Medical Institute (St. Paul) offering a valuable medical book. Those who care to send for it, will find it as represented."

As one of these "ads" is not before us, we cannot deny the latter statement, but we have no doubt that the Institute offers to cure cancer and consumption and Bright's disease and meningitis, etc., even if the regulars have tinkered with such cases and carried them along into their last stages. Our readers might find the book interesting; certainly, it should be valuable for one reason or another. It might be well to get one before the Supreme Court of Minnesota decides, as it may, that they are not salable.

## PHYSICIANS LICENSED AT THE JANUARY, 1909, EXAMINATION TO PRACTICE IN MINNESOTA

### UPON EXAMINATION

Barton, Harry J., U. of Minn., 1906.  
Huennekens, Edgar J., St. Louis Univ., 1908.  
Johnston, Edward James, U. of Minn., 1908.  
Laning, Richard Henry, U. of Mich., 1908.  
McCarty, Paul Dean, Rush, 1906.  
Maertz, Wm. Frank, U. of Minn., 1908.  
Miller, Troy S., Hamline, 1908.  
Nordbye, Frithjof A., McGill, 1908.  
Ohrbom, Torsten, Alexander's U. of Finland, 1902.  
Strauchauer, Arthur Clarence, U. of Minn., 1908.  
Watson, Percy T., Johns Hopkins, 1907.  
Weum, Thurston Wm., Northwestern, 1908.

### BY RECIPROCITY

Adkins, Chas. Marion, U. Med. Coll. Kan. City, 1908.  
Beals, Hugh, Hahnemann, Chicago, 1908.  
Braun, Otto, Rush, 1892.  
Brown, Archibald, Hahnemann, Ill., 1903.  
Coger, H. Earl, Louisville Md. Col., 1899.  
Collins, Herbert Osylon, U. City of N. Y., 1888.  
Collins, Joseph Sylvester, U. of Iowa, 1905.  
Hagenbaugh, Elmer Jasper, Toledo Med. Coll., 1905.  
Hoag, David Ernest, Hahnemann, Mo., 1906.  
Leigh, Henry J., Bennett, 1891.  
Schroder, Chas. H., Med. Coll., Ohio, 1907.  
Sanderson, Anton Gerhard, Bennett, 1908.  
Smith, Wm. H., U. of Mich., 1906.  
Stevenson, Robert Guy, Northwestern, 1906.

## NEW NORTH DAKOTA PHYSICIANS

The following physicians received certificates to practice from the State Board of North Dakota last month:

### UPON EXAMINATION

Beach, R. H. .... Beyville  
Bear, De Witt ..... Driscoll  
Henry, G. I. .... Deer River, Minn.  
Householder, H. A. .... Minot  
Jelstrop, C. .... Hendrum, Minn.  
Munro, H. A. .... Bowman  
Plourd, W. A. .... Overly

### BY RECIPROCITY

Cary, F. T. .... Osnabrock  
Labbutt, L. H. .... Enderlin  
Robb, J. O. .... Ross  
Zimmerman, S. A. .... Duluth



[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### PART OF OFFICE OFFERED

Wanted, a physician or dentist to share furnished reception-room with private office in good downtown location in Minneapolis. For particulars address L. M., care of this office.

#### POSITION WANTED

Young lady, competent nurse, with bookkeeping and office experience, desires a position in a physician's office or hospital in South Dakota. Address J. E. Foote, Brookings, S. D.

#### PHYSICIAN WANTED

In a village of 200, with good surrounding territory, in the southeast county of North Dakota. People are well-to-do, and all money earned by a physician is collectible. Former doctor practiced here for ten years, and earned over \$2,000 a year. People mostly German and German physician is preferred. Address for particulars, Great Bend Pharmacy, Great Bend, N. D.

#### POSITION WANTED

Doctor (M. D.), Austrian, regular graduate, 38 years of age, Christian, single, speaking English and German, experienced masseur, now in Milwaukee, Wis., desires position as assistant in a sanitarium for nervous diseases. Strictly ethical; highest references. Address Dr. M. M., care of this office.

#### LOCATION OFFERED

Well-established practice in one of the most prosperous of the medium-sized cities in the best section of Minnesota, averaging over \$3,800 per year for the past several years and can be increased; practically all collected and collectible, will be resigned to a regular physician who will purchase my entire office outfit and a few other personal effects for \$800 cash.

I wish to change to a large city to practice my specialty. Possession given May next. Address C. W., care of this office.

#### PRACTICE FOR EXCHANGE

A physician in Idaho, with a practice worth \$5,000 a year, desires to exchange for a practice in Minnesota equally as good. Best of reasons for leaving present location. Address K. M., care of this office.

#### PRACTICE FOR SALE

I wish to retire and sell my practice for the price (\$3,000) of my real estate. County seat; town of 1,600 in best part of southern Minnesota; population, Scandinavian, German, and Irish. Address R. C., care of this office.

#### PRACTICE FOR SALE

Four thousand dollar practice in a delightful northern Minnesota town; population six to seven thousand; best office location in town. Examiner for eighteen or twenty old line insurance companies; surgeon for two railway companies; excellent hospital accommodations. Will turn over everything to party who will buy my \$3,500 dollar residence for \$3,000, \$500 down and balance in monthly payments; not less than \$25 per month. Address M. B., care of this office.

#### POSITION WITH SURGEON WANTED

A physician, 28 years old, with hospital experience and five years of general practice, desires association with a good surgeon. Has good location and practice now, but desires to learn and do surgery. Address R. P., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work*.—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

*Doctor*—If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-Graduate Medical Dept., Tulane University of Louisiana.

## DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF NOVEMBER, 1908

### REPORTED FROM STATE INSTITUTIONS FOR MONTH OF NOVEMBER, 1908

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane	6	2			1								1			
Rochester, Hospital for Insane	2															
St. Peter, Hospital for Insane	12	3			2											
Anoka, Asylum																
Hastings, Asylum																
Faribault, School for Deaf																
Faribault, School for Blind																
Faribault, School for Feeble Minded	5	13														
Owatonna, School for Dependents																
Stillwater, State Prison	2															
St. Cloud, State Reformatory																
Red Wing, State Training School																
Minneapolis, Soldiers' Home																
Totals	27	7			3								1			

FOR THE MONTH OF NOVEMBER, 1908

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	6	1		1											
Anoka.....	3,769	4,053	38	12		2											
Austin.....	5,474	6,489	9	1													
Barnesville.....	1,326	1,566	2														
Bemidji.....	2,183	3,800	4	1												1	
Blue Earth.....	2,900	2,364	4														1
Brainerd.....	7,524	8,111	9			1								2			
Chaska.....	2,165	2,085	1														
Chatfield.....	1,426	1,300															
Cloquet.....	3,074	6,117	2														1
Crookston.....	5,359	6,794	9	1										1			
Detroit.....	2,060	2,149	2	1													
Duluth.....	52,968	64,942	82	5	1	4		3						14	3	4	1
E. Grand Forks.....	2,077	2,487	4		1	1											
Ely.....	3,712	4,045	3			3											
Eveleth.....	2,752	5,332	3					1						1			
Faribault.....	7,868	8,279	10	2		1										1	
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	3	2													
Granite Falls.....	1,214	1,340															
Hastings.....	3,811	3,810															
Hutchinson.....	2,495	2,489	1														
Jordan.....	1,270	1,311	1					1									
Lake City.....	2,744	2,877	3			1									1		
Litchfield.....	2,280	2,415	3														
Little Falls.....	5,774	5,856	8			2								1			
Luverne.....	2,223	2,272	0														
Le Sueur.....	1,937	1,842	2														
Madison.....	1,336	1,604	1	1													
Mankato.....	10,559	10,996	10			1								2		1	
Marshall.....	2,088	2,243															
Melrose.....	1,768	2,151	2											1			
Minneapolis.....	202,718	261,974	222	24	2	19	3	18	1			1		2	4	20	2
Montgomery.....	979	1,281	1	1													
Montevideo.....	2,146	2,595	0														
Moorhead.....	3,730	4,794	8						2					1	2		
Morris.....	1,934	2,003	1														
New Prague.....	1,228	1,419	1		1												
New Ulm.....	5,403	5,720	6													1	
Northfield.....	3,210	3,438	5			1											
Ortonville.....	1,247	1,612															
Owatonna.....	5,561	5,651	5			1											
Pipestone.....	2,536	2,885	3											1			
Red Lake Falls.....	1,885	1,797	4	1													
Red Wing.....	7,525	8,149	7			1							1			2	
Redwood Falls.....	1,661	1,806	1													1	
Renville.....	1,075	1,229	1													1	
Rochester.....	6,843	7,233	27	1	1	2										6	
Rushford.....	1,100	1,133															
St. Charles.....	1,304	1,238															
St. Cloud.....	8,663	9,422	6	1				1								1	
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	174	15	1	18	1	10				1		4	3	13	1
St. Peter.....	4,302	4,514															
Sauk Centre.....	2,220	2,463	2													1	
Shakopee.....	2,046	2,069															
Sleepy Eye.....	2,046	2,312	1														
So. St. Paul.....	2,322	3,458	1												1		
Stillwater.....	12,318	12,435	12		1												
Thief River Falls.....	1,819	3,502															
Tower.....	1,366	1,340	1														
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	12	1		1		1							2		
Wabasha.....	2,528	2,619															
Warren.....	1,276	1,640	0														
Waseca.....	3,103	2,838	2			1						1					
Waterville.....	1,260	1,383	2														
West St. Paul.....	1,830	2,100	1														
Willmar.....	3,409	4,040	5													1	
Windom.....	1,944	1,884	3	2		1											
Winona.....	19,714	20,334	16	2				1							1	3	
Worthington.....	2,386	2,276	3														

## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF NOVEMBER, 1908

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	2			1											
Adrian.....	1,258	1,184	1														
Aitkin.....	1,719	1,896	0														
Akeley.....		1,636	4														
Alexandria.....	2,681	3,051	2														
Appleton.....	1,184	1,321	2	1													
Belle Plaine.....	1,121	1,301	0														
Benson.....	1,525	1,766	3														
Breckenridge.....	1,282	1,850	2														
Buffalo.....	1,040	1,124	2														
Caledonia.....	1,175	1,405															
Canby.....	1,100	1,505	3						1								
Cannon Falls.....	1,239	1,460	2														
Cass Lake.....	546	1,062	3														
Chisholm.....		4,231	1														
Clarksburg.....	962	1,056															
Delano.....	967	1,023															
Fosston.....	864	1,000															
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	1														
Glenwood.....	1,116	1,718															
Graceville.....	856	1,032	0														
Grand Rapids.....	1,428	2,055	2														
Hallock.....	805	1,014															
Hibbing.....	2,431	6,566	14			6		1									
Jackson.....	1,756	1,776	1														
Janesville.....	1,254	1,205	2														
Kasson.....	1,112	1,049	1														
Kenyon.....	1,202	1,252	0														
Lake Crystal.....	1,215	1,231	2														
Lanesboro.....	1,102	1,041	2														
Long Prairie.....	1,385	1,256															
Madelia.....	1,272	1,290	1														
Milaca.....	1,204	1,319	2	1													
Mountain Lake.....	959	1,063	2														
North Mankato.....	939	1,129	2			1											
North St. Paul.....	1,110	1,400															
Olivia.....	970	1,019															
Osakis.....	917	1,056	1														
Park Rapids.....	1,313	1,719															
Pelican Rapids.....	1,033	1,095															
Perham.....	1,182	1,366	4	1	1												
Pine City.....	993	1,092	2														
Plainview.....	1,038	1,140	2														
Preston.....	1,278	1,320	2														
Princeton.....	1,319	1,704															
Rush City.....	987	1,041	1														
Rushford.....	1,062	1,040	0														
St. Louis Park.....	1,325	1,491	1														
Sandstone.....	1,189	1,589	1		1												
Sauk Rapids.....	1,391	1,552	0														
Scanlon.....		1,122															
South Stillwater.....	1,422	1,572	0														
Springfield.....	1,511	1,546	0			1											
Spring Valley.....	1,770	1,573															
Staples.....	1,504	2,163	1					1									
Two Harbors.....	3,278	4,402	6	1													
Wadena.....	1,520	1,868	1														
Wells.....	2,017	1,814	2					1									
West Minneapolis.....	2,250	2,530	1														
Wheaton.....	1,132	1,346	1			1											
White Bear Lake.....	1,288	1,724	0														
Winnebago City.....	1,816	1,553	4					1									
Winthrop.....	813	1,031															
Zumbrota.....	1,119	1,129	2	1													
State Institutions.....			27	7		3											
Other parts of State.....	1,012,328	1,085,886	660	54	10	55		15	6			2	1	10	20	40	2
Total for State.....	1,751,395	1,979,658	1504	132	20	128	6	55	8			5	2	50	37	104	9



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## A CLINIC ON INSANITY\*

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CHICAGO

Ladies and Gentlemen:

Permit me, first, to congratulate you on the magnificent institution you have here. I have visited many similar institutions and know of none that surpasses it in equipment. Your able and efficient Superintendent has done for you a superb work in the construction, equipment, and management of this hospital. Since I came here I have been gratified to find, in his office, the plans of a new institution we are going to build in Chicago, which is to cost two million dollars, the plans having been sent here for his criticism. It is a very fitting compliment to Dr. Mead, and I think our Board of County Commissioners will derive great benefit from his criticisms.

What is insanity? This question is frequently asked in cross-examination by lawyers, especially after we have given testimony in direct examination that has been very damaging to their side, knowing, as they do, the extreme difficulty in giving a definition that cannot be severely criticized. On one occasion I disarmed a lawyer by giving him Shepherd's definition that, "Insanity is a disease of the neurine batteries of the brain." But a definition, even if it can be criticized, is an advantage, and I would suggest that insanity is a more or less permanent disease or derangement

of the brain, producing disordered action of the mind in such a way as to put the subject in a condition varying from his normal self and out of relation with his environment. Please note, this definition emphasizes the fact that it may be a disease or simply a derangement of the brain; that is, the nine thousand millions of neurons that constitute the fundamental part of the brain may not be properly arranged, and yet may not be diseased. There may be too many neurons in the emotional territory, too few in the intellectual, or too few in the will territory; and this want of proper arrangement produces the symptoms that are present. But it is a disease of the brain in a certain number of cases, and brought about by disease of various organs of the body that are concerned in blood-making, blood-purification, and in blood-distribution. To illustrate these points, I am pleased to show you some pathological specimens that have been recently obtained here by the hospital assistants.

Here are two perfect specimens of cystic kidney, showing also a marked degeneration of the whole organ that must have seriously interfered with its secretory power, tenfold at least; so that insanity may come from a defective urinary activity; hence the necessity for a careful examination of the urine, not only for albumin and sugar, but also for the purpose of determining the amount of work the kidneys are doing, and early

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.

recognition of this failure may result in a relief of the symptoms.

Here is a portion of a spleen. Note the degeneration of this organ. Was this case of insanity due to the failure or inactivity on the part of this organ?

Here is a liver showing very marked changes in its nutrition, clearly indicating that this organ had not been properly functioning for some time past.

We have here a heart, showing a chronic myocarditis, with calcareous degeneration of the aorta; and, finally, we have here a brain.

You remember one thing about the brain, and that is, it receives more blood than any organ in the body not concerned in the business of blood-making, and I presume there is no doubt about the fact that the quality of the blood used in the nutrition of its neurons is superior to that which serves to nourish other parts of the body. Examining this brain from the under surface, we find the arteries in a state of advanced degeneration. They have lost their resiliency. They could not possibly have supplied blood sufficient to meet its necessities; and if we examine the convolutions of the brain we shall find many of them atrophied, and by careful examination of the meninges and the surface of the brain, we shall find evidences of a meningeal encephalitis.

A very distressing thing about the subject of insanity is the great increase in the number of cases. Let us take the statistics of the Commission in Lunacy of Great Britain, because in that great country there is more stability in this matter than there is here. Politics does not enter into the management of their great institutions for the care of the insane to the extent that it does in this country. In 1860 there was one insane person to every five hundred and thirty-six; in 1870, one to four hundred and eleven; in 1880, one to three hundred and sixty; in 1890, one to three hundred and twenty; in 1903, one to two hundred and eighty-eight. In the State of Illinois the proportion today is about one to three hundred and thirty. Just what the proportion is in your great State of South Dakota, I do not know, but the probability is, it is a little less than it is in Illinois, because your population is more rural. But in this institution there are 730 patients, and the population of your state is about half a million, and I am quite sure that all the insane in the State of South Dakota are not in this institution.

How are we going to correct this great blot on the civilization of today? If it is done at all, it will be done by such medical organizations

as this one—never by the lawyers; never by the preachers. It was physicians who elevated the insane to the dignity of sick people; who removed them from the charge of being possessed by the Devil, or that they were the special recipients of Divine favor. Through the influence of the great Rush of the United States, Pinel of France, Tuke of England, and others like them, we have today all over the civilized world such institutions as this for the care and treatment of this unfortunate disease.

It will assist us somewhat in comprehending this complex subject if we have a classification. A perfect classification of insanity has not yet been made, because no classification can be perfect unless it is based on pathology; but let us divide the cases of insanity, first, into those that are acquired, that is, the insanities that occur in brains that are normal in structure and that have been functioning properly. Second, into the cases that are due to a degenerative process in the brain—brains that were never quite built up on the standard lines. We call these the degenerative psychoses. Third, another class in which we will place the insanities of the critical periods of life, developmental and involutionary. Fourth, a class in which we will place the borderline cases, the obsessions and the phobias, and the impulses and the sexual perversions; and, finally, a fifth class, the terminal dementia, a condition towards which all the others are traveling. One of the forms of the acquired insanities that is quite common we can show you here today in two cases, namely, melancholia.

Melancholia shows itself in several forms. One of these is called the simple form, and another the agitated form. In this agitated form, which you see before you now, the patient is restless; keeps himself in more or less constant motion; talks about his misfortune; his face depicts the concentrated misery of his mind; the lineaments of his face show his great depression. Look at this patient's hand. Note the vasomotor paresis; the capillary congestion. If there is as much capillary congestion in the brain as there is in his hands, is it possible for the brain to be doing normal work? Feel his pulse. Notice its feebleness, and how easily compressible it is. Look at his tongue. It is cleaned off now, but had we seen it two weeks ago, when he was admitted to the hospital, I think you would have found his tongue very much coated; his bowels exceedingly constipated, with the colon doubtless loaded with fecal matter; and the temperature below normal.

The other case of melancholia is the simple

type. You will observe that she sits motionless, with her head bowed on her chest; she says nothing, and replies after a great deal of hesitation to questions in monosyllables. She shows the same condition of circulation; the same lowered temperature; the same great depression in her physiognomy.

These cases of melancholia are exhaustional and autotoxic, and by bearing this in mind, relieving the exhaustion and correcting the auto-intoxication, and recognizing it sufficiently early, in some cases, at least, you can avert a storm. Many of these cases can be well treated in your general hospitals in the beginning. They need the rest-cure. Their treatment should always begin by putting them to bed, establishing as near absolute rest as possible, promoting elimination by all the great emunctories of the body, and securing a reasonable amount of sleep by mild hypnotics. If they refuse food, it should be administered by forced feeding, which should never be delayed very long, but resorted to early. This can be done through the nose with the greatest ease. A large-sized catheter, a funnel, and a couple of assistants will enable you to feed these patients abundantly by the nose, and I think the doctors here will bear me out in saying that many of these patients come here in such an extreme condition of exhaustion because of this feeding having been overlooked, that their recovery is slow and sometimes impossible on account of it. (At this point, Dr. Adams and his assistant showed the method of inserting the nose-tube and feeding the patient.)

In the agitated forms of melancholia the wet pack is of great service as a gentle means of restraining their agitation, and as a means of promoting activity of the skin and usually securing sleep. The bed should be prepared by placing a rubber sheet upon it, over this a woolen blanket, and then a sheet should be wrung out in water moderately cold, and upon this the patient should be placed. He should be rolled up in a sheet, and then in the blanket in mummy fashion; and almost immediately in the majority of cases quietude follows. Perspiration will be induced; auto-intoxication, in part at least, will be relieved; and in this condition he may remain with great success for several hours. As a further means of relieving auto-intoxication, colonic flushings with normal saline solution, should be used. These colonic flushings will not only promote the activity of the bowels, but they will invariably promote elimination by the kidneys.

Insomnia is a very constant symptom, especially in the early stages of these cases, and de-

mands relief. A combination of veronal, five grains, with codeine, one-third or one-half grain, is a hypnotic that will relieve the condition in very many cases. If this fails to produce the desired result, the hydrobromate of hyoscin, in about 1/100 grain dose, will frequently be of great service. When these remedies fail, we may use chloral in from ten to fifteen grain doses as a substitute. I regard the necessity of overcoming the insomnia a matter of paramount importance. Sleep may be facilitated in some of these cases by the sheet rub. A sheet rub is administered by having the patient stand in a pan of warm water, clothes being off, and the body enveloped in a sheet wrung out of water which has the chill taken off of it. The patient thus enveloped is given a very vigorous rubbing by a nurse, in which the patient will often assist, over the entire body. This is to be followed by a dry rubbing.

The next case we present to you is one of mania. Notice the difference in the facial expression. Here we find exaltation, and not depression, as the characteristic symptom; and please notice the flight of ideas, the ceaseless talking, the rapid change from one topic to another, switching off before one idea is completed on to another. There is no trouble about these patients eating. They eat voraciously; they do not often eat wisely, but the appetite is generally abundant. The food is not properly masticated, and hence not prepared for thorough digestion. The best food for these patients is liquid foods. Give them five or six eggs and a quart or two of milk every day, and chopped meat and the expressed juice of meat.

The wet pack, already described, is of great service in these cases in restraining their activities, and will frequently produce sound and refreshing sleep. Many of these cases of mania show for a time depression, and hence are sometimes classed as manic-depressive cases; but the period of depression is usually short, and the prevailing mental state is such as you see here,—restlessness, activity, and an exalted condition of the emotions. Many of these cases of mania show a remarkable condition of memory. They never forget. Thirty-three years ago I gave up the superintendency of the Eastern Lunatic Asylum in Virginia, and last year I went back there for the first time since I left. As soon as I got to Williamsburg, the seat of the institution, I went up to the hospital, and on entering the gate I saw a man running across the lawn, quite a distance away, with great energy, and I put my-



self in the position to resist an attack; but as soon as the man caught up to me, he extended his hand and said, "Doctor Brower, how glad I am to see you." This case of mania that had now become chronic I had admitted to the institution thirty-odd years before, and he had not seen me in the interval.

Mania closely resembles the confusional form of insanity that belongs to the same group that mania does, but one means of differentiating the two conditions is the question of memory. The confusional case has a very marked impairment of memory and a very marked inability at locating things. In other words, he shows disorientation. Confusional insanity is an intellectual derangement very largely, while mania is more largely an emotional derangement than it is an intellectual one.

The next case we have to show you is one of parietic dementia. This man, you perceive, comes before us with a smile. He seems to be perfectly happy. He is of the impression that he is the richest man in the world, and has already offered me a fabulous sum of money without any compensation on my part. General paresis or parietic dementia in its ordinary form shows this excessive delusion of grandeur, either that of great wealth or great power. However, it occasionally begins with depression. This is particularly so when the victim seized upon is a female. General paresis can be differentiated from mania that it so much resembles in this condition of exaltation by the memory failure, a very early symptom. Then, again, there are evidences of paresis about these cases. The handwriting has undergone a very marked change. The hand trembles, it shakes, in the effort at writing, and while the patient may have been a good scribe, he writes in a manner now almost impossible to decipher; and the subject-matter of his letter will be a sure means of detecting his condition. Words will be misspelled; ideas will be extravagant and unreasonable in many respects, and then you will find about them other evidences of physical degeneracy. The patellar tendon reflex may be absent or it may be exaggerated, very rarely normal. Co-ordination in standing is almost invariably impaired. The pupils will be irresponsive to light; they are frequently unequal, very much contracted, or very much dilated. There will be marked tremor of the tongue and the lips in speaking. In testing their capacity in simple arithmetical problems, such as addition, subtraction, or multiplication, you can easily detect their marked memory failure; they are unable to mul-

tiply even the simplest combinations; and the numerous test-sentences will speedily show very marked disorder in articulation, as, for instance, such a test-sentence as "Round the rugged rock the ragged rascal ran." These cases of general paresis are becoming very much more frequent. The products that produce them are syphilis, alcohol, and stress; and the type is changing. In my earlier experience with general paresis they were all of the grand delusion type. Now, as I have already said, we have some of the melancholic type; melancholia with failure of memory, and the symptoms of paralysis already mentioned. And we have now the still further type, and that is the simple dementia type—a simple type, with failure of memory and parietic symptoms, without either the melancholia or the emotional exaltation. And there is one other remarkable thing about them, I think, namely, that some of them do improve. Once in a long while they seem to reach a symptom-cure through a long space of time.

In connection with this subject of general paresis, it has been my privilege to study the question in other countries. Some years ago, during a somewhat protracted visit in the Hawaiian Islands, I searched the records of the institution at Honolulu thoroughly, and examined the patients with great care, and I did not find on record or in the institution a single case of this disease among the natives. The only case in the hospital was a son of the Emerald Isle. I looked into the same subject in Cairo, Egypt, and found the disease was extremely rare among the Arabs, and in a large institution for the insane at Tokio, Japan, I could not find a single case of the disease. Now, the natives of the Hawaiian Islands and the Egyptians and the Japanese have syphilis very much more generally prevalent than it is in our own country, and yet this disease is practically unknown, so that we must have some factor added to syphilis to produce the disease, and I think that factor is alcohol. Stress may have something to do with it, but alcohol is the great added factor in producing the disease.

General paresis not only manifests itself in the nervous and muscular systems of patients, but its effects are shown throughout the various tissues of the body. Especially is this the case with the bones, which become, as a consequence of the disturbed nutrition, exceedingly fragile. A patient in falling to the floor may break a limb. I know of one case in which the arm was broken by shaking hands with a patient, and this easy fracture of the bones has given rise to a great

deal of misrepresentation as to the management of our public institutions for the insane. Broken bones are referred to the brutality of attendants. Again, the nutrition of the skin is very much impaired. Bed-sores are very common. Wherever there has been even a slight pressure, bed-sores will be found in the usual situations. They may be found about the elbows or about the ankles, and the presence of these ulcerations has also given rise to wild rumors of brutality on part of attendants and incapacity on part of the superintendents of these institutions, and therefore I think these things should be widely known among the people.

These cases of general paresis, recognized very early and placed upon a vigorous antisypilitic treatment along with tonics, especially those of the phosphorus class, and placed where they will be in a state of as complete rest as possible will

sometimes show improvement. I have in my clientage at least three cases of general paresis in which marked improvement has taken place and which continues to this day during a period of from fifteen to twenty years, so that they are able to do in a small way work of profit to themselves.

I am sorry that time does not allow us to show you more of these cases; but Dr. Mead desires you to inspect his hospital generally, so that we will close the clinic at this time. I hope, however, I have stimulated on your part an earnest desire to study this very important question, for I know that if you will give it that attention which it deserves, there will be numerous cases of insanity that you will seize in their very incipency, place them in your ordinary hospitals, and restore them to sanity before the disease secures its complete development.

## ANGIOMATA OF THE FACE AND SINUSES--REPORT OF A CASE OF ANGIOMA OF THE ANTRUM OF HIGHMORE\*

BY E. F. REAMER, M. D.

MITCHELL, S. D.

Tumors of the face of various kinds are quite common, but tumors of the sinuses are rare. In the text-books and literature to which I have had access I found very few cases recorded of cavernous angioma of any of the sinuses of the face. Marshall records one case of angioma of the antrum of Highmore and gives his method of combine with another so-called venous form, the capillary nevus, which may show itself as one or more small, raspberry-red, slightly elevated, soft areas upon the skin and face. This may combine with another so-called venous form, which is more vascular and the veins are largely involved. A third variety is the *cirroid aneurism* which can be recognized as a mass of tortuous, elongated, and dilated arteries. It is this variety of which I wish to speak.

The tumor feels very much like a bunch of worms, and not only occurs under the skin of the frontal and temporal regions but is occasionally found in the sinuses of the face. It pulsates, but compression over the feeding artery will cause the pulsations to cease for the time being.

One author states that it can be differentiated

from a pulsating soft sarcoma by the peculiar feeling one gets of elastic tubes filled with blood. A tumor of this kind, like a sarcoma, beginning in one of the antra, cannot be safely diagnosed until it has grown large enough to fill the cavity and cause pressure symptoms. Sarcomata and mixed cancers usually grow much more rapidly than simple angiomata, thus aiding in the diagnosis. Of course when absorption of the surrounding bones has occurred the tumor will spread over the face and can then be reached for palpation and a microscopic examination. Either a sarcoma or an angioma may press into the nasal cavity and be mistaken for a polypus.

Osteosarcomata or chondrosarcomata may be differentiated by palpation, if within touch, by the much firmer consistency than a purely blood tumor. An angioma may be primary in the buccal cavity, beginning inside the cheek or fauces. Carcinoma of the inner side of the cheek is usually an extension from the jaws or lips, but may extend into the antrum of Highmore. Cavernous angiomata are rarely congenital and usually appear rather late in life. They are of slow growth, but often attain to a large size. They are often very sensitive and bleed easily, and for this reason are often dangerous. Angiomata when

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.

found in the antra are more often of the mixed type, such as fibro-angiomata or mucoperiosteal sarcomata.

Mucous cysts of the antrum of Highmore have also been found arising from the mucous follicles of the lining membrane. These may attain such dimensions as to fill the entire cavity and then to distend its bony walls. Any of these tumors may expand the bony walls and obstruct the nasal fossi and thus interfere with nasal breathing, as did the case reported later. They may extend upward causing the orbital plate to be absorbed and displace the eyeball or gain access to the middle cranial fossa.

Polypi of the antrum must be thought of in making a diagnosis, as they occasionally occur, originating either from the lining of the antral cavity or through extension from the nose. The symptoms do not differ materially from those of mucous cysts of the antrum.

#### CASE

Mrs. McL., American, aged 50, has been in poor health for three or four years, and has also had catarrh of the head for years, the left side of the nose troubling most. About a year and a half ago she took a severe cold, and the head has seemed worse since. For over a year she has noticed some swelling of the left cheek and side of the face. She had the anterior end of the lower left turbinate removed and also the second bicuspid tooth on that side thinking that these had something to do with her nasal obstruction. A very severe hemorrhage occurred when the tooth was extracted. Two days before I saw her a physician attempted to operate again upon her left nostril, but after the first effort there was such a gush of blood, which he could not control, that he called in another physician, who succeeded in stopping it by plugging the anterior nares very tightly, but not until she had bled two or three pints (?). Upon examination after the removal of the packing, I found an almost closed nostril, due to the enlargement and adhesion of turbinates to the septum. There was no bleeding at this time. There were swelling and enlargement of the left cheek over the antrum of Highmore, extending well out and down under the lip. Distinct pulsations could be felt, not only under the lip but above and over the cheek.

*Diagnosis.*—Angioma of the antrum of Highmore.

She was put to bed at the hospital April 8th and kept quiet with light diet. On April 13th, under ether narcosis, I made an incision from the

upper lip up nearly to the eye, being careful not to sever the sphincter muscles, and dissected carefully down to the tumor. As soon as the muscles and fascia were severed there was a quick gush of blood, mostly arterial. There was a large hole through the anterior plate of the malar bone from pressure atrophy, through which I could easily pass the index finger. The antral cavity was very deep, extending backward over two inches, filled entirely with blood and blood-vessels—angioma. I used a large dull curette and finger and cleaned out thoroughly, having to work very rapidly on account of the severe hemorrhage. Packed very tightly with gauze and especially over the infra-orbital artery, as it had retracted so much that it could not be grasped with forceps to tie. Temperature and pulse were a little above normal for a few days. Subsequent history was uneventful except as below. Removed the packing a little at a time for one week with but little hemorrhage; the last there being none. Changed and repacked each day, as there was some infection along the edge of the incision. This finally extended into the antrum, or from the nose, as there was another connection into the nasal cavity back and below the normal location. The wound was irrigated and packed a little less tightly each time for several weeks, then a drainage tube was inserted and dressing applied over that.

The lower nasal opening was enlarged to permit better drainage. I also removed some of the anterior part of the lower turbinate to free it from wide, strong adhesions formed with septum, due to neglect of packing the nares at a former operation, by the physician then in charge.

Six weeks after the first operation and when the infection was practically stopped I noticed some swelling under the lip and farther back than the facial opening into the antrum. The patient discovered it at about the same time and that there was pulsation. I immediately returned her to the hospital to be prepared for another operation. Under ether I enlarged the first opening through the cheek, which was now closed, except for the drainage-tube, and explored the antrum. This was found half filled with granulation-tissue, but was smooth around the sides, and there was nothing to indicate that any of the tumor had returned. But below and outside the bone entirely, running along the gum just above the teeth, were felt two or three enlarged blood-vessels, which extended back to beyond the third molar. After incising the mucous



membrane I introduced the curette and cleaned away all tumor-formation. I packed this through the opening, and the wound healed entirely within a very short time.

After daily irrigation of the antral cavity through the cheek for several weeks, I allowed this to close, and what little discharge there was to drain through the opening into the nose.

She went home much improved in health, and had gained ten or fifteen pounds in weight.

#### DISCUSSION

Dr. B. A. Bobb (Mitchell): I would just like to say in connection with this paper what might be of interest, simply that I was present and assisted the doctor in the operation, and after the second operation, the woman, after leaving the hospital, had two severe attacks of hematuria, passing at least a quart or a quart and a half of blood within two days from the bladder. An examination was not made, because she refused it and stated that about three years ago she had the same kind of attack and recovered without any examination and did not wish one made now; and without any treatment except a little genito-urinary antiseptic, she recovered, and it stopped as quickly as it began. Whether there was angioma of the bladder or not we did not ascertain.

Dr. A. J. Ochsner (Chicago): The occurrence of angioma in this location is of course very rare. Angiomata in different portions of the face, the cheeks, the lips, however, are not very rare. This location of angiomata is especially distressing to the patient because of the deformity, and because of the fact that there is frequently a great change in the size of these angiomata, depending upon temperature. These patients coming into a warm room will at once have a large swelling develop, after having been contracted in the cold. Moreover, as this condition advances towards the mucous membranes, in a number of cases I have seen very dangerous hemorrhage. There is a great deal of danger to the patient from that, besides the distress of the deformity, so that operations are distinctly indicated.

Now, whenever there is a large angioma of the face, the removal of this angioma results in an extremely disfiguring deformity. This result was eliminated some years ago by Dr. John Wyeth, of New York, in this manner. He found that by injecting boiling water, or taking boiling water and filling a syringe and then passing the needle of the syringe through an inch or so of the surrounding tissue, and passing the point of the needle into the angioma, and then filling the blood spaces with hot water, not quite boiling by the time it reached these spaces, that this fills these enlarged vessels with coagulated blood, and that these coagula will later on organize and shrink, and that in that way the tumor will disappear,—a portion of it being absorbed, of course, and the rest of it drawn together by cicatricial contraction. We have had quite a considerable number of those large angiomata which we have been able to relieve without resulting deformity.

In a case of this kind it would probably have been necessary to make a number of injections. We have had one case of angioma of the back, which was about

fourteen inches in diameter, so that it was many times as large as the largest angioma of the face that I have ever seen, and in that case, by making a number of injections, it was possible for us to correct the entire condition. Of course occasionally in this treatment you will inject a little too much water, or the water will be a little too hot for the tissues, for the superimposed skin to remain normal, and then you will have a slough. This slough might possibly be in a position of one of the large vessels where it enters the angioma, and there would be a possibility of hemorrhage, although in the treatment of a considerable number of these cases—I have not the number with me—we have never had a hemorrhage, but it is one of the possibilities.

Dr. E. Wyllis Andrews (Chicago): In addition to the treatment mentioned by Dr. Ochsner, which is, I suppose, a modification of the old injection of astringents, perhaps all of you have become familiar in the last year or two with the treatment of small nevi and even very large angiomata, by means of the application of carbon dioxide snow, or what is the same thing, the application of snow formed by liquid air. Carbonic acid gas, however, is furnished to us in every town large enough to have a saloon or a soda fountain, because it is commercially sent out in liquid form in steel syphons. Dr. Pusey of Chicago discovered that if a chamois bag or any receptacle be held over the nozzle of a tap, open, you can collect, in a moment or two, a cupful of snow,—solidified carbonic acid gas. This can be handled with dry fingers with impunity, or you can touch it with your own skin, if you do not press hard upon it, without freezing it, but if a little be collected in a capsule or cup and pressed with moderate firmness, after being packed in, it freezes it much more hurriedly, and practically cauterizes, if one may be pardoned for using the word, the tissues in proportion to the amount of pressure used and the time in which it is applied. Practically speaking, we have in this treatment of nevi, and also liquid-air treatment, which is the same thing, the only perfect scarless method of cure. You know the old treatment resulted in large disfigurement. You know the treatment by astringent injections resulted fatally, killing patients now and then by embolism. Whether the injection of boiling water is safe or not I don't know. The carbon-snow treatment inflames tissues somewhat; it coagulates and solidifies them, and with one or more applications the patient returns to us with no scar, no varix remaining, and a perfect cure.

Dr. Reamer (Essayist): I don't know that I have very much to add. I should like to ask Dr. Ochsner if he ever saw a case confined to the antrum of Highmore, of a purely blood tumor or angioma?

Dr. Ochsner: No.

Dr. Reamer: I asked in Chicago, when attending the meeting of the American Medical Association, this summer, a number of men, surgeons of large experience, if they ever had, and I did not find anybody who had seen a similar case. Marshall, who is a dental surgeon in Chicago, reports one identical case, and it is the only one that I could find. There are mixed tumors and carcinomata which occur in this antrum, but of this kind of growth I can find but very few instances, indeed, recorded.

I meant to have spoken of what Dr. Bobb reported, that is, the bleeding from the bladder, when she was practically cured of the tumor of the face. Now,

whether that was another tumor or not remains to be seen. I rather suspect something of that kind, but we can't tell.

As to treatment, I did not go into that very much. I am glad that Dr. Andrews and Dr. Ochsner spoke of the injection treatment. The old injection treatment of the astringents, iron, etc., was not very safe because a number of deaths occurred from embolism unless the cavity was entirely filled up at once. It was dangerous and so it has been largely abandoned. Dr. Wyeth re-

ports a number of cures of those large tumors by the hot-water injection-method, and I think where they are located on the face or where it is a matter of preventing scars, that that is the best treatment, along with what Dr. Andrews reports of the carbon-snow. I never have used this, nor have I seen it used, but I am sure it is good.

A letter from this patient under date of November 10th states that she is getting along nicely with no indications of a return of her trouble.

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## A CASE OF SPORADIC TRICHINIASIS\*

By GEO. DOUGLAS HEAD, M. D.

MINNEAPOLIS

A number of epidemics of trichiniasis have occurred in the state of Minnesota of which careful studies have been made, but sporadic cases of this disease are unusual, and they are of special interest because of the difficulty of recognition. In those cases where the prolonged low grade of fever without apparent assignable cause dominates the clinical picture one is very likely to fall back upon a diagnosis of typhoid fever, even though the rose-spots and enlarged spleen are absent and the Widal reaction negative. A still more puzzling picture is also to be observed in those rare cases of typhoid fever complicated by myositis, two of which the writer has seen. One of these was in a nurse in the second week of typhoid. She began to complain of severe pains in the muscles of the arms and legs with marked tenderness of the involved muscles, causing the patient to cry out when the muscles were picked up between the examining fingers. The blood examination was normal, and no evidence of trichiniasis could be discovered. The second case was in a medical man, who in the third week of his typhoid developed a similar picture of severe pains and tenderness in the muscles of the extremities, shoulders, and back, which lasted for about a week. Here again there was no eosinophilia or leucocytosis, and the subsequent history was that of a plain typhoid. If the muscle pains and stiffness in the limbs dominate the clinical picture, articular rheumatism is the diagnosis often made, the clinician failing to differentiate between pains and sore-

ness in the muscles and those in or about the joints.

In the case which we have to report the patient was admitted with the diagnosis of la grippe, which the headache, fever, and aching in the muscles of the limbs and back strongly suggested. It was only when the leucocyte count was made that la grippe was excluded. A clinical study of the case, together with the blood-examination, established a probable diagnosis of trichiniasis, which was subsequently verified by the removal of a small piece of muscle from the gastrocnemius and the finding of the embryos in the excised muscle.

G. S., a Greek, 25 years old, laborer, married, one child, was taken sick June 22, 1908, with fever, severe headache, and pains over the body, especially in the legs and back. His family history is negative; also his personal history, except that he is a heavy drinker and smoker.

Prior to the onset of the present sickness he had been a well man, except that ten months ago while jumping from a freight-car he fell and sprained his wrist so badly that he had to stop work and has not worked since. The patient was admitted to the City Hospital, June 23d, the day following the onset of symptoms, as a case of la grippe. He had a temperature of 101.6°, and pulse of 88°. He walked with a stiff, painful gait and complained of headache, severe pain in his back, legs, and chest, and swelling over his body, face, legs, and arms. He had no appetite, and the bowels were constipated. For two days after admission very little attention

\*Read before the Minnesota Academy of Medicine, February 3, 1909.

was paid to the man. On the third day, however, his fever still continuing, he was examined thoroughly by me, and the following note dictated: Patient is a large-framed man, well nourished. His face is puffed and swollen, he is full under the eyes. There is no pitting on pressure. His appearance suggests a patient with acute nephritis. Tongue has a light, white coat, but red at edges. Lymph-glands in the neck are palpable. There is a plaster cast on the right arm from the elbow to the palm of the hand. The lower limbs, especially below the knees, are bawny to feel, and are swollen, but do not pit on pressure. The calf muscles are tender to touch, and the patient cries out if they are pinched. The muscles of the thigh, upper arm, and neck are tender to touch and somewhat swollen. There is no rash on the body. Pupils react to light and accommodation. The lungs are negative. The heart shows nothing abnormal, except a soft systolic murmur at the apex, not transmitted to the axilla. This murmur is heard also at the base of the heart. There is no accentuated pulmonary second sound, and no irregularity or inequality of the pulse. The spleen is not palpable, but on percussion the splenic dullness reaches to the costal margin. The liver is not enlarged. Abdomen is not tender. No tympanitis; respiratory abdominal movements well seen. Knee-jerks are not present. When one attempts to elicit Kernig's sign the patient complains of pain in the posterior aspects of the leg. In moving the patient from side to side he complains of soreness in his legs. Temperature  $99.5^{\circ}$  in the *A. M.*;  $101^{\circ}$  in the *P. M.* The urine is negative. The swelling in the face, with the negative urine-findings, the muscular tenderness, and fever, did not make a picture like la grippe or typhoid, and my suspicions were aroused that we might here have to do with a case of trichiniasis, although the patient denied having eaten raw pork or even cooked pork.

A leucocyte count made June 24th showed a leucocytosis of 25,500. A differential leucocyte count made by myself on the same day showed eosinophiles, 51 per cent; polymorphonuclears, 37 per cent; mononuclears and transitional, 11 per cent. No mast cells and no nucleated reds. The marked leucocytosis and high eosinophilia made the diagnosis of trichiniasis fairly certain, and this diagnosis was subsequently established by the removal of a piece of the gastrocnemius muscle and the finding of the embryo trichinae in the section of the muscle. While the patient was

in the hospital, namely, from June 24th to July 3d, repeated blood-examinations were made by our pathologist, Dr. Burns, who has furnished the following data:

June 25th leucocytes 21,300; eosinophiles 59.3 per cent.

June 26th leucocytes 26,000; eosinophiles 61.1 per cent.

June 27th leucocytes 28,750; eosinophiles 67.3 per cent.

June 28 leucocytes 29,000; eosinophiles 68.2 per cent.

June 29th leucocytes 28,200; eosinophiles 63.5 per cent.

July 1st leucocytes 21,500; eosinophiles 64.1 per cent.

July 3d leucocytes 21,000; eosinophiles 58 per cent.

On July 3d the patient was taken out of the hospital by friends, and the subsequent history of the case is unknown.

#### DISCUSSION

Dr. S. Marx White: I have had a rather unusual opportunity for studying trichiniasis. Six or seven years ago I studied smears from cases which were seen in the southern part of the state by Dr. W. H. Condit, who investigated them for the State Board of Health. Eosinophilia was present in a marked degree. About five years ago I studied smears from a family of five in St. Paul, and in these cases, also, the eosinophilia was readily demonstrable. More recently I have had occasion to study a considerably larger number of cases, observing both the blood changes and the clinical symptoms and signs in two epidemics and in several sporadic cases. The epidemics include one group of five cases and another group of eight cases.

The group of five cases was studied with Dr. F. C. Schuldt, of St. Paul, in whose practice they occurred, and who, suspecting trichiniasis from the signs of muscular involvement, found trichinella larvae in samples of the pork eaten. A study of the blood and clinical symptoms was then undertaken. As a result of this we found in each of these cases, except one, a child of twelve, a hyperleucocytosis. In one case with bronchopneumonia the total leucocyte count was 33,000. In the other cases, uncomplicated, counts of 25,000, 15,000, and 24,000 were found. It is interesting to note that in each of these cases, while the eosinophile percentage varied from 18.7 per cent in the lowest to 41 per cent in the highest, a computation of the total number of eosinophile leucocytes per cubic millimeter gives strikingly constant results, the lowest number being 5,440 and the highest 6,750 eosinophiles per cubic millimeter, this increase being on counts made the same day in each case. In the child five years of age, who showed indefinite symptoms for a few days, the total leucocyte count was 6,000.

The second epidemic showed also an increase in the total number of leucocytes in each case, the highest total being 46,000 in a baby aged 22 months and suffering coincidentally with bronchopneumonia. The highest total count in the uncomplicated cases was 29,600, and



the lowest count, taken on this same day, was 16,600. The eosinophile percentage varied from 7.7 per cent to 30.8 per cent. In one case, however, with a leucocytosis, the percentage was as low as 2.7 per cent. In this series computations of the total number of eosinophiles per cubic millimeter gave figures ranging from 425 in the lowest case and 900 in the next lowest to 7,800 in the case showing the highest number. This case, showing the lowest number, and the baby with the high total leucocyte count are of considerable interest because of the failure to find relative or absolute increase in the number of eosinophiles. The baby, in particular, was very heavily infected, having eaten a large amount of the raw pork. The other case mentioned showed marked muscular symptoms and was unquestionably infected. In both of these cases the only explanation I have to offer is by recalling the leucopenia which is seen in infections usually accompanied by a hyperleucocytosis, but where, in the cases under discussion the infection is an overwhelming one, a positive chemotaxis does not occur.

I have one sporadic case in which Dr. Schuldt suspected the disease on the eighth day, and smears were taken and studied at this time. In this case the total leucocyte count of 12,000 was found with the total number of eosinophiles per cubic millimeter 2,724, or 22.7 per cent. In this case the highest total number of eosinophiles was 8,000, 40 per cent, occurring on the

tenth day of infection. It is interesting to compare this, which is, so far as I know, the earliest observation in a human case, with the results of experimental work in guinea-pigs by Staubli, who found that the seventh to the ninth day after ingestion marked the beginning of the out-wandering of embryos and their entrance into the lymph and blood streams and thereby into the muscles, and also of eosinophilia.

As a result of the study of these cases of trichiniasis there are three or four points which seem to me of especial interest, aside from the quite constant occurrence of eosinophilia:

1. Eosinophilia may be lacking even in infected cases.

2. There seems to be at times a re-infection, since, in two or three cases after the first symptoms of muscular invasion had subsided to a considerable extent, marked muscular soreness would appear again, accompanied by an increase in eosinophiles. This might occur three or four weeks or even longer after the first symptoms of invasion.

3. Muscular symptoms vary greatly. In one case unquestionably infected there was no muscular soreness to call attention to the condition, and it was only when a companion was shown to be infected that the nature of this case was suspected, and a marked eosinophilia was found.

## CLINICAL DEMONSTRATION OF THREE CASES AFTER PERINEAL PROSTATECTOMY\*

BY HERMAN BOUMAN, M. D.

MINNEAPOLIS

It is only a very few years since the writer learned to drain a full bladder effectively.

CASE 1.—A. J., a civil war veteran, German, seventy-nine years old, married, has a fine family. His health has been good; at one time he drank a little. During the past ten years he had been obliged to urinate regularly several times at night, and, however much he pressed, it took just so much time to empty his bladder. He had lost some in flesh and weight of late.

One night, during the first part of October, 1905, he was aroused by a heavy rain. He ran out, partly dressed, to prevent the water from running into the cellar. Thoroughly chilled and wet, he went to bed again and found it difficult to make himself comfortably warm. The next morning he had a moderately severe pain in the upper left hypochondrium. There were no signs of pleurisy, but the pain disappeared, when his bladder was emptied by catheter. The amount

of urine he could not expel was twelve ounces, of low sp. gr. and clear, containing neither pus nor casts. A large soft prostate seemed to block the passage, and the surrounding tissues felt normal. Catheterization brought improvement, but it was painful, however gently done. After a few days he insisted on relieving himself, and cystitis followed.

The condition became more intolerable, for, with the more frequent necessity of catheterization, the pain grew more acute. He accepted operation. On the second day of November, 1905, his prostate was removed after Dr. Young's method, through the perineum. The gland came away in pieces on account of the soft consistency. (Specimen was lost.) He was very happy the next morning. The torture was gone, and drainage was free. The packing was removed after thirty-six hours, and the tube was left in seven days. He was six weeks at the Northwestern Hospital, his recovery being slow on account of his obstinate cystitis. Finally, after many regular bladder-washings he did well.

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.

He has normal control, his water is clear, and there is no residuum.

CASE 2.—A. K., American, seventy-nine years old; previous health good; was married twice. On October 6, 1906, he complained of great weakness, dry cough, loss of appetite, nausea and vomiting. He had a red dry tongue, and slight rise in temperature. He passed urine very frequently, night and day. His residuum was about thirty-two ounces, clear, of 1005 sp. gr., no odor, and it contained a little pus.

A very hard, large, even and painless prostate was found; the surrounding tissue seemed normal. Regular catheterization brought great comfort, and he improved much. He then insisted that his brother could just as well pass the catheter, and cystitis was soon established. The catheter now became an instrument of torture, however necessary. Operation was accepted, and the prostate was removed after Dr. Young's method by enucleation, on November 16, 1906, at the Northwestern Hospital. (Specimen presented.) The packing remained thirty-six hours and the tube a few days. The bladder was irrigated a few times only. In about three weeks the patient left the hospital, and in about six weeks after the operation he could urinate normally, and recovery was steady and uneventful. He has normal control of his bladder and his urine is clear.

CASE 3.—Mr. J., American, seventy-eight years old. His health has been good; he had an injury to one of his testicles many years ago, when he was kicked by a horse. Had lagrippe last winter. For years he has passed water at night,

more or less frequently, and he has not been himself during the past year. On June 31, 1908, he had complete retention, coming on after a journey into the country. He claims that something gave way as he stepped from the ground high up on the steps of the car. Regular catheterization became imperative. Urine was clear and of low sp. gr. He had a very large, soft, uniform prostate blocking the passage. The surrounding tissue seemed free from infiltration to the touch.

His prostate was enucleated after the method mentioned above on July 10, 1908, at the Northwestern Hospital. (Specimen shown.) On account of light packing there was some bleeding that night, but it proved to be of no consequence. The packing and tube were removed as above; no further interference. He left the hospital within three weeks, and urinated normally four weeks after the operation. At the end of August he could resume his canvassing. His control is normal.

All patients appear to their families much brighter and clearer.

In conclusion, I would like to urge that we practitioners regard the prostate gland with more respect, not alone in old men. There may be but a few years for them to live, and it is surely our duty to make them comfortable. If their bladders need drainage let us see that it is done thoroughly. Masters like Dr. C. H. Mayo and Dr. Young and others have in past years shown us freely their effective methods and their splendid results.

## HYDRONEPHROSIS IN A CHILD 18 MONTHS OLD\*

BY M. K. KNAPP, M. D.

TWO HARBORS, MINN.

On Sept. 2, 1903, a little female patient, 18 months old, was brought to the office by her mother. She gave a history of chronic constipation, loss of flesh, distention of bowels, and enlargement of the abdomen. This enlargement had been first noted by the mother nine months previously, or when the child was nine months old, but it had been attributed by her to constipation.

The child was 32 inches in height, and meas-

ured 26 inches around the abdomen. She was able to walk with some difficulty by dragging the left leg.

She was very poorly nourished, anemic, tongue slightly coated, temperature and pulse normal, and, as the mother stated, she was subject to sick spells from constipation. These were evidently simply an auto-intoxication. The family history presented nothing unusual, while the other children of the family were all healthy.

The examination of the urine showed nothing abnormal except a few scattering pus cells. The

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

amount of urine was apparently normal.

A distinct tumor could be made out in the left side of the abdomen, and, on account of the child's general condition, a tentative diagnosis of sarcoma of the kidney was made, which was, however, found to be an error.

The operation was performed Sept. 9, 1903, through an abdominal incision. Ether was used as an anesthetic. On account of the enormous growth it was necessary to manipulate the intestines, for the growth extended almost up to the spleen.

The tumor when removed measured 18 inches in circumference in its greatest diameter; 14 inches in its lesser, but weighed only  $3\frac{1}{4}$  pounds.

Hydronephrosis is usually caused by occlusion of the ureter, but may also result from certain anomalies. Here the renal vessels were abnormal. They were a number of small veins which united a short distance from the kidney to form one large vein. The ureter was some distance

from the vessels, about  $2\frac{1}{2}$  inches. The kidney itself showed marked cystic degeneration, and the pelvis was enormously dilated and thickened. Some adhesions of intestines to peritoneum were present in front of the kidney.

The operation took about forty-five minutes, but about ten hours later, the rectal temperature was  $105.4^{\circ}$ ; pulse, 125; respiration, 35. The general condition was excellent, and the child had but little pain. The bowels moved spontaneously the following day. The temperature remained from  $101^{\circ}$  to  $103^{\circ}$  for two days when it dropped to normal. I was unable satisfactorily to account for the temperature, as there was no infection and no demonstrable ether pneumonia. The child left the hospital in two weeks. Since 1903 I have seen her until one year ago and watched her through an attack of measles and smallpox. Although no particular care was taken with the diet, she never had any uremic attacks.

## CARDIOSPASM\*

BY OLIVER R. BRYANT, M. D.

MINNEAPOLIS

Cardiospasm is a functional stenosis of the esophagus at the cardia, associated with regurgitation of solids and liquids, immediately, or within a short time, after ingestion, resulting in symptoms of starvation. Up to 1904 Mikulicz estimated 100 cases, so that to-day we probably have about 150 cases that could be collected since the first case was reported by Purton, in 1821. The paucity of reported cases is probably due to failure in diagnosis, for, I believe, the condition is more prevalent than the figures would indicate.

*Etiology.*—Like eclampsia, cardiospasm enjoys a long list of etiologic factors, from congenital defects to the various neuroses, but, unlike eclampsia, I believe, cardiospasm may have a number of causes, any one of which may be responsible for its production. While we feel that any disturbance in the function of the nerve-muscle apparatus of the esophagus, and especially of the cardia, may result in cardiospasm, we must determine the cause of this disturbance if we would treat it successfully.

Reviewing the etiology, the ante-stomach theory of Fleiner will not explain the appearance of the

condition in a previously healthy adult. Cardiospasm, secondary to atony of the musculature of the esophagus, by Renstein, is doubtful, since a majority of the patients do not complain of any difficulty in swallowing, and all evidence points to cardiospasm as a primary condition. In Krause's theory of paralysis of the inhibitory action of the vagus there is no question as to the failure of the inhibitory action of the nerve controlling the cardia, but we must go back to the cause of this failure. Esophagitis is a cause according to Zenker and Martin, but the esophagoscope would show this, and painful deglutition would have existed previous to the sudden onset of spasm. To these theories I should like to hypothetically add hysteria, reflex irritation, hyperchlorhydria, and rapid eating. Hysteria is offered as a possible factor because of the myriad effects of this disease and its ability to produce demonstrable spasms in other portions of the body, and also because of the important position occupied by suggestion in the treatment of cardiospasm. Under reflex irritation we must consider any inflammatory condition of the abdominal organs, but more especially gastric and duodenal ulcer, chronic appendicitis, gall-stones, and

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



adhesions. Many of us have seen the pylorus in active spasm during a gastrotomy on a patient in whom was found a normal stomach, but a diseased appendix or other inflammatory condition outside of the stomach. Hyperchlorhydria suggests itself because in one case I found an excess of hydrochloric acid, which, when corrected, gave relief from the cramp-like pains.

Our knowledge of the physiology of swallowing is limited, especially as to the relationship existing between the cardia and the esophagus. Von Openchowsky demonstrated contracting and dilating fibres in the vagus, brain centers for contraction and dilatation of the cardia, and ganglionic cells in the serosa of the cardia, which relate to the function of that organ. Mikulicz found the cardia when at rest in a light tonic contraction. Kronecker and Meltzer showed that fluids were squirted into the esophagus by the mylohyoid, and then carried through the cardia by a peristaltic wave. The substance of this evidence is to prove that there exists a rhythmic mechanism of deglutition which will, in a normal individual, handle the ordinary rate of ingestion; but, given a neurotic individual with a history of rapid eating and bolting one mouthful after the other until the cardia, overwhelmed and refusing to respond to the usual stimuli, becomes tonically contracted, as does the musculature of an overdistended bladder, food accumulates in the esophagus, the thin flabby wall dilates, the peristaltic wave loses its force, the inhibitory action of the vagus is weakened, and a condition of spasm follows.

*Morbid Anatomy.*—The morbid anatomy reveals nothing which will aid in working out the cause of this disease. The characteristic flask-like dilatation of the lower two-thirds of the esophagus is shown, together with signs of inflammation of the mucous membrane and hypertrophy of the circular fibres.

*Symptoms.*—Pain and regurgitation of food are the characteristic symptoms. The pain is of a cramp-like, suffocative nature, referable to a tender point at the end of the sternum and radiating upward to the neck and roof of the mouth. The pains bear no relation to the meals, are irregular, and may wake the patient from his sleep. At first he may obtain relief by drinking a quantity of hot water. In the early stages regurgitation may be periodic, influenced by any mental or physical strain and haste in eating. The food is swallowed without difficulty, but after a few mouthfuls, depending on the capacity of the dilated esophagus, the ingested materials are

gulpd up without effort or strain. After the condition has become chronic the patient will regurgitate large quantities of mucus at intervals between meals. The mucus is the result of the catarrhal condition of the esophagus. Extreme emaciation and weakness ensue, closely simulating the picture seen in malignant disease of the alimentary tract.

*Diagnosis.*—The most important point in the diagnosis is to know that there is such a condition and be ready to recognize it. Persistent dysphagia with sudden onset of severe cramp-like pains at the lower end of the sternum radiating upward to the neck and mouth, obstruction to a stomach-tube about 40 cm. from the incisor teeth, absence of digestive ferments in the regurgitated materials, but their presence in food obtained by tube from the stomach, and the immediate improvement and relief after passing a large sound, are symptoms pathognomonic of cardiospasm.

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## REPORTS OF SOCIETIES

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### MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held at the Minneapolis Club, February 3d, Dr. J. E. Moore presiding. There were present forty members and one guest.

Dr. S. Marx White presented an amendment to the By-Laws as follows:

The sum of \$5.00 per annum for each Active and Associate member shall be assessed and set aside as a separate fund to be known as the Research Fellowship Fund. This amendment shall take and be in force on and after October, 1909.

Dr. White moved that the amendment be adopted. The motion was unanimously adopted. The funds thus provided are for the support of a Fellowship at the State University to be awarded annually, and the result of the research thus made reported to the Academy at the October meeting each year.

Dr. George Douglas Head presented a clinical report of a case of sporadic trichiniasis, which was discussed by Dr. S. Marx White. (See page 108.)

Dr. F. A. Dunsmoor reported a case in which a second abdominal section was followed after a few days by the extraordinary temperature of 110° for ten days, lasting, however, only a short time each day. He advanced the theory

that the hyperpyrexia was caused by the absorption through the omental surface denuded of its peritoneal covering by the breaking up of extensive adhesions.

Dr. Riggs inquired whether it may not have been a nervous temperature, and cited a similar occurrence in a case of Pott's disease which he had seen with Dr. Gillette and in which the conclusion had been reached that it was a nervous temperature.

Dr. Stewart asked whether the temperature had been per mouth and axilla at the same time, or whether it may not have been a fraud practiced by the patient in some way. Dr. Dunsmoor replied that he thought that sufficient care had been taken that fraud could be ruled out.

Dr. A. E. Benjamin then read a paper entitled "Surgical Tuberculosis; Tuberculin Treatment and Report of Cases." The same was discussed by Dr. George Douglas Head. (The paper will be published later in *THE JOURNAL-LANCET*.)

Dr. Archibald E. Wilcox, then read his inaugural thesis, entitled "Tetanus."

Dr. J. E. Moore opened the discussion. He stated that he had one case of tetanus in each decade of his practice. The very first case in his private practice was one of tetanus, brought about through a blister on the heel which became infected. The man died, so that the mortality in his practice at that point was one hundred per cent. The second case occurred in a compound Pott's fracture and was also fatal. The third and last case was following an operation for hernia. On the third day after operation, when the patient was doing nicely otherwise, he developed tetanus. The source of infection was probably the kangaroo tendon used for sutures. Although the antitoxin treatment was faithfully carried out the patient died. He says he no longer uses kangaroo tendon sutures.

Dr. C. Eugene Riggs stated that he understands from the best of authorities that the germ-infection is entirely local about the wound, that the trouble in the nervous system is due to the toxin alone, and that the manner of the toxin reaching the central nervous system is along the pathway of the reflex motor arc. He stated that at the Massachusetts General Hospital the manner of treating tetanus is by cutting away the tissues about the wound and treating the patient with antitoxin. By this method they have had no fatal cases of late, even among the Fourth of July wounds. He urged injecting the large nerve-trunks high up near the cord as

the best method of giving the antitoxin, using enough of the fluid to increase the nerve to two or three times its normal size. The intramuscular and intravenous injections may also be used. These are the methods in use at the Massachusetts General Hospital, as stated by Dr. Porter of Boston.

Dr. H. B. Sweetser has had a considerable number of cases of tetanus and they all died but one. He believes that the period of incubation is the principal determining factor in prognosis. His last case was treated by cutting out the wound and by injection of the nerve-trunks and the sinuses of the brain with serum, but the patient died on the next day. He thinks that they always die when the symptoms have developed, therefore the serum should be used in cases of suspicious wounds as a preventive. In his one case that recovered the incubation period was some nineteen days.

Dr. F. A. Dunsmoor expressed the view that tetanus, like some other infections, does show a direct relationship between the length of incubation and the severity of the illness. The short period indicates fatality, while the long period affords some hope. He had two cases within a few days of each other, which he believed to be due to the catgut used. Sutures from the same stock of catgut were used in both. One, after a long period of incubation, recovered under antitoxin treatment, while the other with a short period died.

Dr. Little asked very pertinently what, after all, is to be done with our patients? Are we to treat all cases where the possibility of tetanus infection is suspected, with antitoxin as a prophylactic measure? It would entail great expense and give rise to much uncertainty. It would seem to him that the treatment by the magnesium-sulphate method would be far more reasonable.

Dr. Nippert had seen some twenty-three or twenty-five cases, mostly from Fourth of July injuries, and all died. One case, with a very long period of incubation was treated by hypodermic injections of morphine and recovered. Like Dr. Little, he would like to know just what course to adopt in the treatment of these cases.

Dr. Haldor Sneve said he could not understand how the nerves can carry the antitoxin from the wound to the central nervous system: in other words, how the infection can travel the pathway of the reflex arc, as has been stated. He had seen one case treated by carbolic acid, which recovered. As to infection from sutures;

if the catgut treated by pyoctaunin is used, he thinks there will be no trouble.

Dr. Alex. R. Colvin spoke of a case under his observation at the St. Paul City Hospital in which a large sliver was removed. Trismus and other slight symptoms occurred. The region of the wound was thoroughly cut away, and the antitoxin treatment carried out. The child recovered. In this instance the so-called period of incubation was unusually long. He suggested the use of the terms *acuteness* and *chronicity*, rather than short and long periods of incubation.

Dr. James Gilfillan has seen many cases in his experience at the Long Island Hospital and elsewhere. He has treated them with antitoxin by injection of the large nerve-trunks high up, by the excision of wounds, and by all other known methods, and they have all died. One case he saw in consultation in which the wound was not incised, although it was a punctured wound, nor was his advice followed in particular, and the patient got well. He has seen no beneficial results from the use of antitoxin.

In closing the discussion Dr. Wilcox emphasized the necessity for being always on the alert, and treating the class of wounds which are of a suspicious nature as though they were infected. He believes the ordinary drugs used in the treatment of tetanus, such as the chloral, carbolic acid, and also magnesium-sulphate to be simply nerve sedatives, which serve to tide the patient over the critical period. (The paper with the full discussion will be published in our columns at an early date.—EDITOR.)

ARTHUR W. DUNNING, M. D. Secretary.

#### HENNEPIN COUNTY SOCIETY

A regular meeting of the Society was held on February 1st, Dr. J. D. Simpson, the president, in the chair, and 65 members present.

Dr. Robitshek reported a case of ruptured kidney, and presented the patient, a child, who had been kicked by a horse. The child vomited; and was put to bed. He had a great deal of pain that evening, and passed bloody urine. Remained in bed only two days. After that time, was perfectly well; at least, he felt so. He slept well. In about five or six weeks, however, his father noticed a swelling, which became larger and larger. It was not tender to touch or pressure. Dr. Barber, whose case this is, tapped him in the back twice, but after a week, he was taken to the hospital. Dr. Eitel operated upon him. He found that the kidney was entirely ruptured, one

portion being distinctly separated from the other. The child just came from the hospital today.

Dr. H. L. Staples reported for the telephone committee. Dr. Hill moved that this committee be continued until the matter is settled in the courts. Motion carried.

Motion by Dr. J. W. Bell that the annual dues be fixed for the ensuing year at \$7.00. Motion carried.

On motion of Dr. W. A. Jones, the chair was authorized to appoint a committee of three, to act with other committees, to meet the Board of Education in regard to medical inspection in the public schools. Motion carried. Committee: Dr. W. A. Jones, Dr. F. A. Knights, Dr. F. M. White.

Moved by Dr. Bradley that a committee of three be appointed to co-operate with the Board of Public Instruction of the American Medical Association and the Minnesota State Medical Association in taking on this work of propaganda. Motion carried.

Moved that a committee of five on membership be appointed by the chair. Motion carried.

The Committee appointed to consider and report at this meeting upon the suggestions of Dr. McCormack made the following suggestions:

1. That the Hennepin County Society appoint a committee of five members whose duty it shall be to devise a plan for the establishment of a post-graduate course of study and report back at as early a date as possible to the Society; also that the officers of the Ramsey County Society be invited to appoint a similar committee to confer with our own with a view to a possible co-operation in the work along such lines as may seem desirable.

2. The appointment of a committee of three members, who shall take up and report upon the other suggestions of Dr. McCormack, viz., the holding of joint meetings with allied professions; open meetings with the laity; meetings to be devoted to the ethical and business relations between doctors and their patients.

(Signed) J. H. STUART, M. D., Chairman.

Committee: G. P. Crume, M. D., I. Sivertsen, M. D., H. A. Cohen, M. D., J. W. Mintener, M. D., Oscar Owre, M. D.

Dr. W. A. Jones moved that the report be accepted and placed on file, and that the committee be continued to carry out the matter of post-graduate work. Motion carried.

The Censors having reported favorably, the following named physicians were elected to membership: Dr. L. A. Rexford, Dr. Alvah J.



Stowe, Dr. C. C. Tyrrell, Dr. Frank S. Bissell.

The names of the following physicians were proposed for membership: Dr. W. G. Brede, Dr. C. J. Planske, Dr. A. C. Potter, Dr. G. F. Schmidt, Dr. W. E. Tryon.

Dr. F. C. Todd gave a demonstration of the bronchoscope.

Dr. Farr read a paper on "Some Surgical Diseases of the Kidneys and Ureter." The paper was discussed by Drs. Little, Benjamin, and Hare, the discussion being closed by Dr. Farr. (The paper and full discussion will be printed later in THE JOURNAL-LANCET.)

Dr. J. Harlan Stuart read a paper on "The Uses of Electricity as a Remedy."

C. H. BRADLEY, M. D., Secretary.

#### RICE COUNTY SOCIETY

The annual meeting of the Society was held in Faribault on February 10th, with seventeen members present.

Dr. D. M. Strang, of Northfield, read a paper on "Epidemic Infantile Paralysis."

The following were elected officers for the current year: President, Dr. A. C. Rogers, Faribault; first vice-president, Dr. Warren Wilson, Northfield; second vice-president, Dr. P. A. Smith, Faribault; secretary-treasurer, Dr. F. U. Davis, Faribault.

The president entertained the Society at dinner at the School for the Feeble-Minded.

F. U. DAVIS, M. D., Secretary.

#### THE BLUE EARTH VALLEY SOCIETY

The Society held its annual meeting in Blue Earth on January 14th, with nine members present.

Dr. C. H. Burton, of Elmore, read a paper on "Eclampsia With Pronounced Ocular Symptoms;" and Dr. J. A. Broberg, of Blue Earth, read one on "Expert Testimony."

The medical defense law offered at the last meeting of the State Association was adopted, and the resolution of Dr. J. W. Andrews was laid on the table by unanimous vote.

Officers were elected as follows: President, Dr. G. H. Leudtke, Fairmont; first vice-president, Dr. W. C. Chambers, Blue Earth; second vice-president, Dr. H. J. Forbes, Winnebago; secretary, Dr. J. A. Broberg, Blue Earth; treasurer, Dr. W. J. Richardson, Fairmont; delegate, Dr. S. C. Schmitt, Blue Earth; Alternate, Dr. O. N. Burton, Elmore.

J. A. BROBERG, M. D., Secretary.

#### TWIN CITY SWEDISH SOCIETY

The Swedish Medical Society was organized at the Swedish Hospital last summer and several meetings were held during the fall.

Dr. A. Soderlind was the first president; Dr. A. E. Hedback, the vice-president; Dr. Gilbert Seashore, the secretary; Dr. O. A. Olson, the treasurer.

At the annual meeting in January, the following officers were elected: Dr. C. J. Ringnell, president; Dr. A. E. Hedback, vice-president; Dr. Gilbert Seashore, secretary; and Dr. O. A. Olson, treasurer.

The Minneapolis membership numbers twenty, and recently seven new members were added from St. Paul.

The first annual banquet was given at the West Hotel, Minneapolis, Saturday evening, January 30th, at which twenty-five members were present.

Dr. Ringnell was the toastmaster. Numerous toasts were responded to, and everybody had a good time.

Dr. Ringnell outlined the work of the Society, speaking as follows:

Members of the Swedish Medical Society, and Honored Guests:—It is with great pleasure and feelings of joy and satisfaction that I bid you welcome to this festive board: This feast, or get-together banquet, should have been celebrated more than ten years ago; but we have neglected the social side of our profession and have been engaged in our work night and day for the sake of keeping the practice together and accumulating a few dollars, and yet a friendly feeling has existed during these years of toil.

We have found out that greater efficiency, more marked success, and infinitely greater pleasure in our chosen field of labor, come to the one, or the ones, who mingle freely with his, or their, fellow practitioners. We need encouragement; we need a friendly counsel now and then from our brothers in the work; and why should these be shunned?

A great future is opening up to us of Swedish birth, or descent, in this great land of ours. United, we can accomplish many things not dreamed of years ago. A Swedish Medical Society should be founded, and wherever a few practitioners are found they should be banded together with a view of accomplishing something new in medicine and surgery.

The members should be encouraged to systematic study in their chosen lines; and help and encouragement should be freely given to any ambitious member, whether young or old. Frequent meetings should be had and scientific papers read and discussed. Laboratory work should be encouraged, and wherever possible a well-trained man should be given moral and financial support to carry on research work.

True, we have the county, state and national societies, and I hear some of you say that these are quite sufficient. To some they are, but there are practitioners

who never attend these meetings. We should insist that all of our members unite with these bodies at the earliest possible opportunity, if they are not already members, and that they attend the meetings as often as possible. But in our smaller societies we can train ourselves to become not only listeners but workers in these bodies. How many of us present here tonight take part in any of the doings of the societies referred to, how many hold offices, and how many contribute to the medical journals? Our societies can be preparatory institutions to the others. If only three or four members attend, they can go through with the scientific work just the same; and the writing, reading, and discussion of papers will train one and all to take part in any meeting of our other societies. We can then become useful members, and command attention and respect whenever opportunities offer themselves. We are desirous only of doing hard, honest, intelligent, and up-to-date work. By so doing we shall command the respect and confidence of the profession and the public.

Our members should also be encouraged to do post-graduate work at the best institutions in this country and abroad. Friendly and profitable relations could undoubtedly be established with the practitioners in our Fatherland, and opportunities given to visit the hospitals and clinics. Special efforts should be made to induce the faculties of the medical schools in Sweden to establish post-graduate schools, or clinics, in connection with their undergraduate institutions, so that we should be able, in some measure, to benefit by their profound learning and thorough teaching.

I see one here tonight who is a graduate of one of the institutions in Sweden, and we hope that this worker, and friend of ours, will take it upon himself to do all in his power to bring this about.

Our Fatherland has a history of which we are proud. It has given men of science to the world, whose names will always adorn the pages of history. Sweden has, to a certain extent, been forgotten in this country, especially as pertains to medicine; but let us in whose veins the blood of the North still flows, help to light the torch which leads the way to scientific truths, and the benefits shall be mutual.

At the meeting it was decided to change the name to The Twin City Swedish Medical Society.

Under the old arrangement there were to be four stated meetings during the year, but on account of the rapid growth and healthy activity of the Society, monthly meetings will probably be held this year.

The following constitute the present membership: Minneapolis members,—Drs. A. E. Anderson, Geo. E. Benson, A. F. Blomburgh, J. G. Ericson, H. G. Franzen, A. E. Hedback, A. E. Johnson, Julius Johnson, N. A. Johnson, A. Lind, C. J. Lind, Herman Magnuson, Edw. Moren, Elmer Nicholson, Olof A. Olson, Henry W. Quist, J. A. Regner, C. J. Ringnell, Gilbert Seashore, A. Soderlind; St. Paul members,—Drs. Robert O. Earl, O. W. Holcomb, E. M. Lundholm, J. Edwin E. Olander, Victor N. Peterson, Olof Sohlberg, and E. G. Sterner.

## STEARNS-BENTON COUNTY SOCIETY

The Society met at Sauk Center on Jan. 21st, with fifteen members present.

Papers were read as follows: "Injection Treatment for Tic Douloureux," by Dr. C. B. Lewis, St. Cloud; "My Method of Treating Neurasthenics," by Dr. J. A. DuBois, Sauk Center; "Practical Points in Giving Anesthetics," by Dr. A. F. Moynihan, Sauk Center; "Report of a Peculiar Case," by Dr. Adrien Kirghis, Sauk Center.

A thorough discussion followed the reading of each paper.

A paper was also read by Dr. J. C. Boehm on "The Hypodermic Use of Oleum Creosyn Compound."

It was moved and seconded that the proposed establishment of a system of medical defense by the Minnesota State Medical Association receive the endorsement of this Society and that our delegate at the next State meeting be instructed to act in accordance with such expression. Carried.

J. C. BOEHM, M. D., Secretary.

## ST. LOUIS COUNTY SOCIETY

The Society met at Duluth on Feb. 18th, with twenty members present. Dr. Detling read a paper on "Ocular Symptoms, Due to Nasal and Accessory Sinus Disease," and Dr. Bagley presented a paper, "Gall-stones with Special Reference to Surgical Treatment."

Dr. Collins opened the discussion on Dr. Detling's paper and Dr. Braden opened the discussion on Dr. Bagley's paper.

N. L. LINNEMAN, M. D., Secretary.

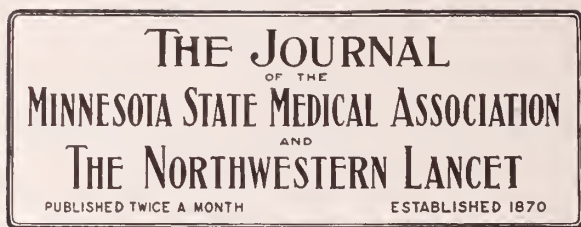
## WASHINGTON COUNTY SOCIETY

The Society met at Stillwater on January 12th, with 8 members present. No papers were read, the time being given to business matters.

The Society voted in favor of the proposed amendment to establish medical defense; also in favor of the resolution declaring it unprofessional and cause for expulsion to give or take money for the securing of patients.

Officers were elected as follows: Pres., Dr. E. E. Wells, Stillwater; 1st vice-pres., Dr. W. R. Humphrey, Stillwater; 2nd vice-pres., Dr. G. H. Burfiend, Afton; sec'y-treas., Dr. F. G. Landeen, Stillwater; censor, Dr. D. Kalinoff, Stillwater; delegate, Dr. W. R. Humphrey, Stillwater; alternate, Dr. E. O'B. Frelich, Stillwater.

F. G. LANDEEN, M. D., Sec'y.



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MARCH 1, 1909

### AUTOMOBILITIS

This season of the year is productive of many epidemics. Communicable diseases, germ diseases, like influenza, and other premonitory signs of epidemic disturbances are in the air.

The rise in temperature and the restlessness and worry that are the forerunners of any kind of an outbreak are applicable to the possible purchaser of an automobile. We all know the symptoms, and physicians cannot escape the seductive germ. The smell of gasoline and burning oil from an exhaust-pipe and the quiet and swift-running car are enough to stir any man's pulse and make him long for a self-propelling vehicle.

The value of a car, gasoline, steam, or electric, to the physician cannot be estimated in money, but the saving of time and the relief from the anxiety of driving and caring for a horse are the important considerations in the purchase of an automobile.

The number of machines sold to physicians is increasing yearly, and it will not be many years before the doctor's horse will have disappeared. It pays to buy and run an automobile, for, if handled rightly, it is no more expensive than horses. The original investment may be larger, but the returns in speed and pleasure amply repay the outlay. Men in the country are everyday investors, and out of the large number of cars shipped to outlying towns, the physician

is a frequent purchaser. For town and city work nothing equals it, and the prompt arrival of the doctor is fully appreciated by the patient.

Cars are now within the financial reach of the majority of medical men, and when a doctor thinks he cannot afford a car he should revise his investment plans.

It pays to buy a good car, one of reliable make even if one must save on something else.

Fortunately, the car of moderate price is now built on good lines and of suitable materials. The most common objections to automobiles are their supposed unreliability and poor construction, but as a matter of fact and experience it is the man who drives the car who is usually the one at fault. More care given to the car, fuel, and oil, and more care on the part of the driver will eliminate the majority of complaints.

The coming automobile show in Minneapolis on March 13th to 20th will be the biggest of its kind ever attempted in the Northwest, but the wise man will get in his order for a machine before the opening of the show. Deliveries are sometimes slow, and the writer, from past experiences, would advise the would-be purchaser to decide on the make and place his order early. The country doctor is now able to get a car that will go through any roads at any season excepting, perhaps, a few days in the entire year.

### THE STATE TUBERCULOSIS EXHIBIT

The complete exhibit, with some additions, made by Minnesota at the World's Tuberculosis Congress in Washington, is now to be seen in Minneapolis.

The Exhibit may be seen at the following places and dates: State University, March 2-4. Eastside High School, March 6-11. Northside Library Building, March 13-16. This date includes a Sunday opening. Welles Memorial House, March 18-20. Nicollet and Lake, March 23-26.

The State Expert, Mr. Easton, is in charge, but the program and lectures are under the direction of a committee selected from various organizations. The labor unions have their representatives, and they are urging their members to attend and spread the gospel of information. The merchants who advertise so extensively in the newspapers have kindly consented to insert notices of the meeting place of the Exhibit in their regular advertising columns. This is in itself a generous act, and will keep the Exhibit constantly in the public mind. The newspapers, daily and weekly, are also granting space for no-



tices free of charge, and in other ways are assisting in educating the people as to the dangers and prevention of the Great White Plague.

Every reader of THE JOURNAL-LANCET should urge his patients and their friends to attend the Exhibit while it is in their neighborhood.

Lectures by prominent laymen and physicians are being given on every evening while the Exhibit is in the city.

Minneapolis should turn out in large numbers and show the same enthusiasm and appreciation as was shown while the Exhibit was in the smaller cities.

To those who have never seen the Exhibit it will prove a revelation and an education. The great movement all over the world is sufficient evidence that an effort is being made to control and eventually suppress tuberculosis.

#### A PATTERN FOR SECRETARIES

If the secretaries of our various societies throughout the state would follow the example set them by Dr. Arthur Dunning of the Minnesota Academy of Medicine, THE JOURNAL-LANCET would not be obliged to ask repeatedly for reports of societies.

His reports are clear and sufficiently full to give the reader an idea of what is going on in the line of programs and discussions.

A little time, a little practice, perhaps, and a bit more promptness would be highly satisfactory. It is not very agreeable for the Secretary of the State Association and the editor of the JOURNAL to be constantly begging for information. It should come in unasked and should be received in time to print the program at least two weeks before the meeting and the transactions should be sent immediately after the meeting to keep the whole meeting fresh before the readers.

Dr. Dunning's report in this issue is a model of society-reporting, and no secretary should long be content with giving the profession an account of his society's work much short of that given from month to month by Dr. Dunning. We doubt not that Dr. Dunning finds in the doing of this work ample reward for the pains and time required, for no man can make a good report of a lecture, a conversation, or a meeting, without receiving himself decided benefit from the effort.

#### ATTEND TO LEGISLATIVE ILLS

There is still time to write to the various representatives, in order that some vicious anti-medical bills may be killed. One representative

writes in answer to a letter from a physician that ministers and lay people are urging the passage of a chiropractic bill!

It is a notorious fact that the majority of cheap patent medicines and spurious appliances are recommended by clergymen and uneasy and unstable laymen who like to see their pictures and testimonials in the public press.

Unless the medical men earnestly urge the legislators to use their influence in the line of better medical working laws, some of these ephemeral practitioners will be recognized by the state and practice by laws that are ridiculous in any civilized community.

The people at large do not understand why physicians are trying to obtain regulations that are good for the public health, but it seems a trifle strange that men who are chosen as representatives should not have intelligence enough to condemn laws that are farcical and dangerous. Such is the lamentable fact, and such ignorance can be overcome only by pointing out the defects and dangers in the licensing of irregular practitioners.

There are five physicians in the House and Senate this year, and all are working like Trojans for the advancement of the medical sciences, yet they have received only half-hearted support from the physicians of the state. They must have the encouragement and support of every medical man in the state so that they can show that they represent medical interests.

Senator Witherstine, of Rochester, is the only physician in the Senate; Representatives Dorsay, of Glencoe, Gates, of Kenyon, Graham, of Duluth, and Phillips, of Northfield, have given up the practice of medicine for four months, and are entitled to all the help we can give them. They have not gone into politics for the game, but for the good they can accomplish as medical men. Now is the time to help them and to express an appreciation of what they are trying to do for our profession.

#### MINNEAPOLIS' PURE WATER COMMISSION

It is useless to deny that the need of a pure water supply for Minneapolis is imperative, and so much so that the matter of cost must not stand in the way of the solution of the problem. The City Council has appointed a Commission in a manner that is full of promise. Each of the eighteen representative public bodies of the city was asked to name a representative citizen to act as a member of the Commission. These men will

appoint three other members, thus giving a body of twenty-one who will at once proceed to obtain all available information upon which a decision as to the best process or method for giving the city pure water, in abundance for all time, may be based.

The subject has been before the city a good many years, and its gravity has not heretofore been overlooked, but the river water was at hand and other great needs were pressing upon us, and so the river water has been generally used, except in periods when the city itself raised the danger signal, and then the water-cart was resorted to by those who could afford it, while others boiled the water or drank it raw and died in a ratio that was never creditable to Minneapolis.

Several years ago a commission of three was appointed to deal with the question; this commission was composed of one expert of national reputation and two local experts who did not command the confidence of the community. When the commission made a divided report, the two local politicians against the outside man, the public made no response to the suggestions embodied in the majority report.

The present Commission will be a representative body, chosen by men and women who stand for all that is best in our civic life; and, representing and speaking for such a body of men and women, their conclusions if approaching anything like unanimity, should command, not only respect, but action—action that shall be immediate and effective.

As we write, all the names of the Commission are not at hand. The Hennepin County Medical Society appointed as its member of the Commission, Dr. R. O. Beard.

The Commission is instructed to make a report on May 1st, but such report cannot be final, for the time is too short.

### PRIVATE LABORATORIES

In all large cities that have arrived at a cosmopolitan stage in their medical development, there are laboratories of every description. These laboratories are more or less in competition with the large drug-houses because they manufacture vaccines and serums. The choice of vaccine and serum by the physician is influenced by his faith in the manufacturer, and it is sometimes a very difficult problem to know what to do.

Minneapolis has established a clinical laboratory to act as a clinical, pathological, and

biological clearing-house. It is under the direction of Dr. Henry L. Ulrich, in the Pillsbury Building, and not only is equipped to examine all forms of tissue and fluids, but is able to prepare serum-tests and to measure opsonic indexes. The vaccines are manufactured according to Sir Almroth Wright's method, and the laboratory carries a stock of tuberculin B. E., T. R., and T. O., staphylococcus, streptococcus, pneumococcus, gonococcus, coli, and typhosus vaccines graduated to doses ready for use. Special attention is given to the preparation of autogenetic vaccines.

These private laboratories do not in any way interfere with the greater laboratories of the State University, nor do they interfere at all with the general practitioner in his work, as they are only aids in outlining the clinical picture or the prognosis. The bedside method and the laboratory should go together when investigations are in progress.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. W. M. Patterson, of Iowa, has located at Egan, S. D.

Dr. H. V. Magnusson has moved from Minneapolis to Battle Lake.

Dr. M. H. Claggett has moved from Yankton, S. D., to Fairfax, S. D.

Dr. John T. Rogers is the new Chief-of-Staff of the St. Paul County and City Hospital.

St. Luke's Hospital building at Faribault is nearing completion. It will have thirty rooms for patients.

Dr. Samuel Friedlander, of Minneapolis, died on Feb. 21st, after an illness of several years, at the age of 68.

Dr. J. D. Budd heads the Citizens' ticket for mayor of Two Harbors. The office is after the man—sometimes.

Dr. Julia W. Jacobson-Keats has returned to Minneapolis for practice and is now located at 1512 Twentieth Ave. North.

Dr. August J. Rundberg, who practised until lately at Valley City, N. D., died last month at Kathryn, N. D., at the age of 42.

Dr. W. C. Wilson has moved from East Grand Forks, Minn., to Grand Forks, N. D., and become associated with Dr. Engstad.

Drs. W. J. and C. H. Mayo have given the City of Rochester additional land for Mayo Park, which they gave the city some time ago.

Dr. L. C. Weeks was elected Mayor of Detroit on Feb. 16th by a majority of 93. His opponent was Mayor Davis, who has served four terms.

Dr. W. H. Young has moved from Munich, N. D., to Lennox, S. D., to enter partnership with his brother, Dr. A. A. Young, of Lennox.

St. Louis County proposes to have a hospital for the treatment of advanced tuberculosis cases which cannot be received at the State Sanatorium.

The East Side Commercial Club of St. Paul has asked the City Council to employ a physician regularly to examine the school children of the East Side.

Dr. Ancker of the St. Paul City and County Hospital is urging that an appropriation be made for a separate hospital building for the treatment of cases of tuberculosis.

Dr. Charles J. Beise, of Mankato, died last month. Dr. Beise graduated at Rush with the Class of '94, and began practice at Mapleton, afterwards going to Mankato.

Dr. A. C. Moorhead, of Minneapolis, failed in his appeal to Governor Johnson to have his license restored. The State Board of Medical Examiners certainly scored in his case.

Dr. R. G. Stevens, of Heron Lake, has sold his practice to Dr. Allen of Iowa. Dr. Stevens will take a course in nose, throat and ear work, and devote his time exclusively to special practice.

A special course in charities and correction has been established in the Medical Department of the State University. Mr. Eugene T. Lies, of the Associated Charities of Minneapolis, lectures three times a week in the course.

The new hospital called Roundup, at Grand Forks, N. D., is ready for occupancy. The railroad company will use one floor and some of the lodges will have private rooms for their members. Mrs. Bell Giles and Mrs. Lizzie Bequette are the proprietors.

The village of Scanlon is being moved bodily to Cloquet, a distance of three miles. Dr. Henderson of the former place, who has been sur-

geon for the lumber company for several years, will go to Europe next summer, and then return to St. Paul to resume general practice.

At the annual meeting of the Sheyenne Valley (N. D.) Medical Association, the following officers were elected: President, Dr. A. W. MacDonald, Valley City; vice-president, Dr. M. D. Wesley, Cooperstown; secretary-treasurer, Dr. J. Van Houten, Valley City; delegate, Dr. L. S. Platou, Valley City.

While Dr. E. Haberman, of Sioux Falls, S. D., was performing an operation for appendicitis, assisted by Dr. A. T. Mann, of Minneapolis, he was himself taken with the same disease, and had to be operated on by Dr. Mann the same day. A clear case of he who thinks appendicitis will have appendicitis.

St. Paul has a committee to watch the proceedings of the legislature in order that no legislation affecting the city's interests may be passed without the City Council's knowledge. Dr. William Dunwoodie is a member of the committee. It is wise to appoint such a committee and still wiser to put a physician on it.

Austin proposes to have a "tag day" to raise money to buy an ambulance. It is not very creditable to any village to have to take sick, disabled, and perhaps mangled people to the hospital in a dray or common bus. Austin's example should be followed by all villages, unless the authorities will pay the cost of an ambulance.

The physicians of Jamestown, N. D., have advised the county commissioners of that county to erect a \$40,000 hospital in Jamestown for the hospital care of the poor, and to receive pay-patients, who, it is estimated, will almost pay the running expenses of the hospital, including the care of all poor-patients.

Dr. Isadore Coriat, of Boston, who is prominent in the investigation of subconscious phenomena and suggestive therapeutics, was in the Twin Cities last month. He spoke before the Ramsey County Medical Society, but made no public address in Minneapolis, other than a short talk to the students of the Medical Department of the State University.

The physicians of Missoula, Montana, have protested against the passage of a bill before the Montana legislature to grant reciprocity in the matter of licenses for practice. The ground of the protest is that reciprocity would make it impossible to prevent issuing certificates to incompetent men. This is quite absurd so far as it



applies to many states, especially Minnesota and the Dakotas. It is a backward step.

The Minnesota Medizinische Wiener Verein, an association of physicians who have studied in Germany, held its fourth annual meeting and banquet in St. Paul, on February 13th, with over sixty members present. The speeches and stories were bright, the songs good, if not German, and the banquet was one of Carling's superb. Dr. Franklin R. Wright was elected president, and John Butler secretary-treasurer.

The Missouri Slope (N. D.) Medical Society met last month at Bismarck, N. D. Resolutions were passed asking the legislature to provide for the establishment of a state tuberculosis sanitarium and condemning the proposed law permitting the sale of liquors only upon a doctor's prescription. The following officers were elected: President, Dr. W. H. Bodensadt, New Salem; vice-president, Dr. P. F. Kearney, Glen Ullin; secretary-treasurer, Dr. A. M. Brandt, Bismarck.

The Crow River Valley Society held an interesting meeting last month at Litchfield. Dr. R. E. Farr, of Minneapolis, read a paper on "Some Surgical Diseases of the Kidney and Ureter"; Dr. Emil S. Geist, of Minneapolis, presented some cases of wry-neck, and gave a short talk on the subject; Dr. Karl A. Danielson, of Litchfield, gave a brief paper on "Pernicious Anemia"; Dr. H. E. Cassell, of Litchfield, reported the statistics of one hundred laparotomies; and Drs. J. W. and A. W. Robertson, of Litchfield, gave a clinic at their new hospital, presenting a number of interesting cases.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### PART OF OFFICE OFFERED

Wanted, a physician or dentist to share furnished reception-room with private office in good downtown location in Minneapolis. For particulars address L. M., care of this office.

#### POSITION WANTED

Young lady, competent nurse, with bookkeeping and office experience, desires a position in a physician's office or hospital in South Dakota. Address J. E. Foote, Brookings, S. D.

#### PHYSICIAN WANTED

In a village of 200, with good surrounding territory, in the southeast county of North Dakota. People are well-to-do, and all money earned by a physician is collectible. Former doctor practiced here for ten years, and earned over \$2,000 a year. People mostly German and German physician is preferred. Address for particulars, Great Bend Pharmacy, Great Bend, N. D.

#### POSITION WANTED

Doctor (M. D.), Austrian, regular graduate, 38 years of age, Christian, single, speaking English and German, experienced masseur, now in Milwaukee, Wis., desires position as assistant in a sanitarium for nervous diseases. Strictly ethical; highest references. Address Dr. M. M., care of this office.

#### PRACTICE FOR SALE

A well-established practice in a fine central Minnesota town of 1200 in a thriving German and Scandinavian farming community. Sale to include a small and well-located modern home at a sacrifice. I wish to specialize. Will introduce successor. Address L. R., care of this office.

#### OFFICE POSITION WANTED

A young lady desires a position in a physician's office. Has had five years' experience. Best of references. Address N. C., care of this office.

#### PRACTICE FOR SALE

Unopposed practice near Twin Cities, pays over \$2500, with first-class and complete equipment, can be had at price goods invoice. A rare bargain for one looking for an excellent location. Write for particulars and give references, and the seller will give best of references. Good reasons for selling. Address T. E., care of this office.

#### PRACTICE FOR SALE

I wish to retire and sell my practice for the price (\$3,000) of my real estate. County seat; town of 1,600 in best part of southern Minnesota; population, Scandinavian, German, and Irish. Address R. C., care of this office.

#### PRACTICE FOR SALE

Four thousand dollar practice in a delightful northern Minnesota town; population six to seven thousand; best office location in town. Examiner for eighteen or twenty old line insurance companies; surgeon for two railway companies; excellent hospital accommodations. Will turn over everything to party who will buy my \$3,500 dollar residence for \$3,000, \$500 down and balance in monthly payments; not less than \$25 per month. Address M. B., care of this office.

#### POSITION WITH SURGEON WANTED

A physician, 28 years old, with hospital experience and five years of general practice, desires association with a good surgeon. Has good location and practice now, but desires to learn and do surgery. Address R. P., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work*.—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

*Doctor*—If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-Graduate Medical Dept., Tulane University of Louisiana.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## SOME OBSTETRICAL OBSERVATIONS, BASED CHIEFLY ON FIFTY RECENT CONFINEMENTS\*

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ST. PAUL

The motive which prompted me to study more closely than ever the cases coming under my care was one of determination to ferret out, if possible, the cause of an unexplained morbidity constantly arising in my service at the City Hospital. Why it was that patients delivered under every scientific precaution and receiving the best of care should develop a serious rise of temperature during their puerperal period, was hard to understand, and, worse, this fact led us to question the benefits of asepsis and antisepsis. It was hard for me to understand why patients in private practice, confined without a semblance of asepsis, should make an uneventful recovery, while others, delivered in an atmosphere of modern methods and attended by physicians and nurses surgically particular, should become septic.

At the hospital we have been contending for a long time with unmistakable sepsis, and, no matter how carefully we conducted the labors, there was sure to develop in a large proportion of the cases flagrant infection. We closed the maternity; we fumigated the rooms; we discarded the bed-pan; we used antiseptic douches; we allowed

the patients to get out of bed in three days, hoping thereby to escape some lurking germs that may have infected the bed—all to no purpose. We began to think that obstetricians who asserted that a temperature ceased to be physiological when it reached 100 degrees, were speaking of the ideal and not the real state of things. At one time we imagined the infection came from the structure of the building, but deliveries in other sections of the hospital also developed morbidity. In despair we began to study the records, hoping to get light or to find a key to the mystery. These investigations aided us very little; the histories were too incomplete. We then began observations and the recording of data in the new cases as they came to us, both in my hospital service and my private practice.

Apparently, sterilization does not always sterilize. While some things admit readily of sterilization, there are others, vulval pads, in particular, that can not be made so by ordinary methods. After once having become septic it is hardly possible to destroy the bacteria of its innermost portions without ruining the substance of its construction.

\*Read before the Minnesota Valley Medical Society, Mankato, Oct. 8, 1908.

There seems to be such an excellent opportunity right here to illustrate how differently, or, rather, how indifferently, cases of parturition are managed as compared with surgery, that I can not resist the temptation to make the comparison. The question was asked the superintending nurse, "Would you take dressings from a case of erysipelas, and, after cleansing them or even sterilizing them, would you permit their use in the operating-room?" "Most certainly not; we would destroy them at once." Again I asked, "Would you allow a nurse caring for a diphtheritic patient to go directly and without disinfection to another, we will say, suffering from tonsillitis?" Surely not; and yet it is hard to impress on even the trained nurse the fact that the same care is needed in midwifery that is demanded in surgery.

When it was found that the same vulval pads were made to do service over and over again, it was feared they might be the source of infection, and none but new dressings were thereafter used. At once puerperal morbidity ceased, and our investigations along this line were interrupted. But other observations were carried on which, while having no particular bearing on that of infection, were interesting and instructive.

Many of the cases brought to the City Hospital for confinement come in the midst of labor. Quite frequently it happens that they are in the hospital less than an hour before delivery; and it has occurred a few times during the past half-year that the patient was delivered in the ambulance while on the way to the hospital. There is also another class of cases that we are called upon to care for, for whose cleanliness and freedom from infection we cannot vouch. I refer to women delivered elsewhere, but who are brought to the hospital soon afterward, young women living in seclusion, perhaps, and putting off the evil day of their discovery. A hurried call is sent to the nearest physician who, in turn, shifts the further responsibility of the case onto the hospital as soon as he can safely do so.

As a rule but a single examination was made during labor. Not that it was considered risky to make more, but usually one was all that seemed necessary. Indeed, in several instances it was unnecessary to make any vaginal examination at all; abdominal palpation told us all that we needed to know. My instruction to students is to refrain from touching the parturient tract more than can be helped, and, if examinations must be made, be surgically clean, so that pathogenic germs shall not be conveyed into the canal.

In nine of the labors forceps were used. Three times at least they were not necessary, being applied simply for purposes of clinical demonstration. There is a great deal to be learned about the use of forceps; at least, my experience and observation lead me to believe they are sometimes applied very blindly. Have we not, when the head refused to engage, been guilty of arbitrarily applying them to the presenting part without much care as to how it was grasped so long as we got any kind of a hold at all? I look back on my own mistakes with many regrets when I think of the times I was obliged to depend more on physical strength than technical skill, and thereby forced a child to be born by instrumental means when by a little maneuvering a life might have been saved. If need be, introduce the hand into the birth-canal and ascertain just how the head lies, and so adjust the blades that their distal ends shall not wound the child's neck or face. It ought not to be necessary to force their locking, and if they will not come together readily, the blades have not grasped the head in the most favorable position.

As to chloroform: I give much less than I formerly did. To allow it early in labor encourages the patient to think she must have it all the time. Its seductive influence steals away her reason and robs her of courage and fortitude; and to keep up its administration indefinitely reduces the vitality of both herself and babe. Many of our hospital cases received none at all; others were given a few whiffs as the head was passing over the perineum. The chief value of chloroform, from an obstetrical point of view, is that of a safety device in cases of too rapid delivery. With it we can quiet the contractions of the uterus and control the other expulsive forces. But to withhold it, sometimes requires more stamina than most of us possess. One of the strongest appeals that greet the doctor's ears, and the hardest to withstand, is that of a woman in travail who beseeches him to "*do something*"; and, being a sympathetic person, he gives way only too often to her solicitations, and administers chloroform and other narcotizing drugs, perhaps disastrously.

In only three instances of the fifty under consideration was an internal remedy used to influence labor. The "HMC" tablet was given twice and morphine alone once. Nor were any drugs as a rule given post partum. I have yet to see demonstrated the routine need for ergot. The giving of one drug leads to the demand for another. For example, if we are free with



chloroform during labor, we may have to fly to stimulants later; if we administer these powerful drugs to the mother, we not only disturb her own normality, but we stupefy the child, making resuscitative measures necessary or, not rarely under such circumstances, lose the baby altogether. Thus I have come to look upon indiscriminate drugging as baneful, and guilty, oftentimes, of doing more harm than good. One might better do nothing at all than do the wrong thing or overdo the right thing.

*Lacerations.*—Thirteen of the whole number of cases had sufficient laceration to make suturing necessary. None were torn into the sphincter muscle, and few were injured more than a tear of the perineal body. Only two of these thirteen were multiparous women. Two of the remaining eleven were delivered with the fetal occiput persistently posterior; both required the aid of forceps, the children being born alive, though one died two weeks later from the injuries received. The other posterior position was delivered after the method of Scanzoni, and without harm. Laceration occurred in seven cases where the birth was spontaneous, the position of the child being normal. Following the method of Hirst I have, in several of the cases, deferred repairs until the third to fifth day. Further than to ascertain whether bleeding was normal or not, no manipulations of the vagina and vulva were made at the time of delivery; and not until a subsequent visit, and after the patient had rested from her labor, were the tissues examined or the repairs undertaken. When lacerations are sewed up immediately after delivery, it is often difficult to determine exactly which is torn and which is contused tissue. Besides, at this time the patient is suffering more or less from shock, the parts are swollen, the blood confusing, the light poor, and, generally, the physician is exhausted. Even after a delay of seven days, I have had the parts unite perfectly. The average laceration of the perineum may be well united by a single silkworm suture, or at most, two. Beginning near the caruncle on the left side, the needle is passed obliquely down through and across to the opposite side, coming out about half an inch further back than where it entered. Carrying the needle across the median line of the laceration it is again made to enter, and, like before, it is passed down, through, and across to the opposite side in an oblique direction, coming out near the right caruncle. This makes a figure-8 suture and draws the parts together better than two interrupted ones. Another stitch may be required to

close the external surfaces of the perineum.

The average weight of the placenta was found to be one and one-fourth pounds, and the length of the cord a little less than twenty-four inches. When long the funis was apt to be one or more times around the child's neck. It would be interesting to know if its being around the neck of the developing fetus caused the cord to lengthen as growth continued, or, being long to begin with, the fetus more easily succeeds in twisting it about its neck in its gyrations within the womb.

Nine babies were dead when born. Most of them were immature, and two or three were syphilitic.

Douches were rarely given. The puerperal toilet consisted of a simple external cleansing with sterile or antiseptic solutions.

All of our normal cases were allowed to sit up on the third or fourth day and to be upon their feet a day or two later. Since discovering the source of infection, there has been no puerperal morbidity.

Aside from a laxative—generally castor oil—very few other medicaments have been given during the lying-in period. At the height of our trouble we debated a few times giving antistreptococcic serum to our worst cases, finally deciding not to do so. It is interesting to note that as compared with some other cases of puerperal sepsis, in the hospital at the same time, who received large and frequent doses of the remedy, ours made much the quicker recovery. It may look defiant to withhold a drug so praised, but we have not had occasion thus far to regret its non-administration.

The average age was 28, the youngest being 18 and the oldest 40. Ten of these were single; the other forty were married, or said to be.

In weight there was no difference between males and females, the average in either case being approximately seven pounds. The smallest viable child weighed three pounds, and was a girl; the largest was a boy weighing ten and one-half pounds, and he died. Speaking of birth-weight, reminds one that "all men are liars" when it comes to weighing the infant. Seemingly, he is such a precious package that there is no believing the father, the nurse, or the doctor. Nearly every day I hear of twelve to fourteen-pound babies being born, when, as a matter of fact, even a ten-pound child is rare. As far as I know, I have never assisted into the world one that weighed more than ten and a half pounds.

I am much surprised to note the wide variation in number of days gestation lasted in this series

of cases. Calculating from the dates given by the patients some of them went as long as 303 to 313 days. At least 13 of the 50 were not delivered till after the 290th day, figuring from the beginning of the last menstrual period. Eight children lived whose gestational period was under 265 days. Two of these were twins whose prenatal period was quite accurately determined to be 255 days. Still, when I come to average the whole series it is found to be 281 days—not far wrong.

More than one-half the cases were primiparæ.

As to nativity, thirty-six of the mothers were born in the United States, four in Germany, three in Russia, two in Poland, two in England, and one each in Norway, Canada, and Switzerland.

The external conjugate averaged 20 cm.; the transverse (between the anterior superior iliac spines) 23.5 cm.

As to fetal position (the diagnosis was made at the time of examination, which was generally some days antepartum), 29 were of the L. O. A., 4 of the R. O. A., 1 of the L. O. P., 2 of the R. O. P., 2 of the breech, and one of the shoulder.

The sex was about equally divided between boys and girls.

The length of the first and second stages of labor, especially the former, was not easy to determine. The onset of labor is so very gradual in some instances that it is hard to say when it really has begun. As nearly as could be calculated, the first stage in the primiparous woman averaged ten and a half hours, the second stage, two and a half hours. In multiparæ the first stage continued eight hours, the second one and one-fourth hours.

The prognostication of sex, calculated on the number of fetal heart-beats per minute, has proven nothing. The statement is made that the male heart beats slower than the female, and, taking 135 as the average, a boy may be promised if his heart is found to beat 120-130, and a girl if it be 145-150. The fetal heart was carefully counted in most of our cases, and in some instances it was counted many times and by various physicians. The average of 136 was noted in both sexes. The slowest pulse (120) was a male; the most rapid (150) was also a male. Our predictions were correct in fifty per cent of the cases. A discreet guesser could do as well.

There was the widest variation in the preparations of the patients for labor. At the hospital our technic was carried to the surgical degree, even to the shaving and thorough scrubbing of

the pubes. In private practice it amounted to little more than ordinary cleanliness. No antiseptics were used as lotions, except for the hands of the accoucheur; no douches were given before labor; no sterile sheet or anything else that could be certified to be sterile was draped about the patient or used on her person; and, in some instances, no attempt was made to be anything more than decently clean. The only times I wore gloves were on a few occasions when the hand was introduced into the uterus, either to perform version or to detach the placenta. The internes at the hospital, however, always wore them when in attendance upon a case of labor.

#### A FEW DETAILS OF SOME OF THE CASES

Case 3 had been delivered of her last baby twelve years before, since which time she became a widow and later remarried. Meanwhile there had been performed a perineorrhaphy that cosmetically looked to be a very successful restoration of the natural parts, but in reality was a union of fibrous unyielding tissue that refused to dilate at time of labor. Ultimately it must have given way, although the tissue was exceedingly strong and seemed able to withstand indefinitely the pressure of the head as it came down against it. With the scissors the barrier was divided and the child quickly delivered. Afterward the cut surfaces were united by suture, attempting to do no more than restore the former condition of a small introitus. The parts united well and the patient is as she was before we delivered her.

Case 5 was a Caesarian section. Mrs. ———, German, 32 years of age; 4 ft. 8 in. in height; under 100 lbs. in weight. Been married fourteen months. Gave a history of rickets in infancy; did not walk until she was eight years old. A deformity of the back was noticed when she was six years of age.

The following conditions were noted at the time of her admission: marked hydramnios; numerous parts in utero felt on palpation; abdomen greatly distended; promontory of sacrum easily reached by the index finger. These observations were made very soon after she came to the hospital. On the following day she was anesthetized and more carefully examined and measured. The true conjugate was estimated to be 7 cm. (2¾ inches), entirely inadequate for delivery through the natural passages. (This measurement was afterwards verified within the pelvis). We were not able at any time to make out either fetal heart-sounds or movement. I suspected twins, but the great amount of water made abdominal

examination difficult. In consultation with Drs. Ritchie and Rothrock it was decided that, while it might be possible to empty the uterus by embryotomy, we would be justified in making the Cæsarian section since the mother herself assured us that she continued to feel life. In comparing the foreshortened anteroposterior diameter with the transverse the latter measurement



Simple flat rachitic pelvis.

was more than the average, being as much as 25 cm. from one anterior-superior spine of the ilium to the other. Abdominal section was performed within a few days. Both children were much macerated. The uterus was amputated and the abdomen closed. (Porro.) A mild ether pneu-

monia followed, but within a fortnight she was up and had left the hospital a few days later. There are many details of this case which are of interest, but I must be content to summarize and give essentials in brief. I show a photograph of the woman taken a day or two before the operation.

Case 18 illustrates how much easier it is to see what would have been well to do after a thing is done, than it is to know what is best to do before we begin. This woman had been delivered of two other children, the first of which was by means of instruments and with great difficulty; the other was a very small child and was born naturally. The history of the present labor, briefly stated, was something like this: A physician was called to attend her who had taken no pains to ascertain beforehand whether conditions were normal or not, or if she might expect an easy or a difficult labor. Whatever his reasoning or observations may have been, he began without much delay to deliver with forceps. Failing in his efforts, he called upon a confrere for assistance, and together they made several fruitless attempts at delivery. Much blood was lost during these maneuvers; so much that she swooned several times after coming to the hospital. Version was performed without great difficulty, and the child was delivered in a rather short space of time. The attacks from without and the depletion from within were too much for the child, and it could not be resuscitated. Here was a woman with a history of a previous difficult labor, with an external conjugate of 18 cm. Apparently the disproportion between the fetus and the mother's pelvis was not very great, yet a life was sacrificed because the right thing was not done at the right time.

Case 19 calls attention to conditions which permit of prolapsus of the funis (length of cord), with rupture of the amniotic sac before the head is engaged and while the patient is standing on her feet. This young woman was about the hospital during the early stages of labor. She had borne a child before; the cervix offered little resistance; the head was not fixed in the pelvis, and, with a gush of water, down came the cord. By the time she was prepared for examination it was all too late, for the child was born lifeless within half an hour. Is it not a comfort to know that the head is engaged before the sac ruptures? And should we not know beforehand whether or not the head be engaged before we allow patients to be upon their feet?

The mother in Case 21 possessed a hare-lip



and a cleft-palate. Quite naturally she worried during pregnancy for fear her child might have the same deformity. The baby was born without a blemish. To interrogate again, how shall we view the question of maternal impression? In this instance both it and heredity were without effect.

Case 22. Age 25; German parentage, small in stature; confused in her dates—married in November, but did not menstruate since September. Pelvimetry revealed a foreshortened diameter, the external conjugate being but 17 cm. Carefully watched during her pregnancy, it was evident toward the end that the fetus could not be made to engage in the superior strait, and, figuring from a date when it might have been possible for conception to take place, which was earlier than that of marriage, we concluded that it would be wise to induce labor at the thirty-sixth week. This was done. It took fifty-two hours with a medium-sized bougie in the uterus to incite labor. For twenty-one hours more labor progressed naturally before the cervix was fully dilated. We waited three hours longer in the hope that she might deliver herself, but without avail. It was necessary to apply the forceps, though the position was the most favorable one for delivery. When born the child's head was moulded to a most remarkable degree, showing with what difficulty nature was propelling it through the pelvic opening; also reminding us forcibly how impossible it would have been for the woman to be delivered of a live child had she gone the full length of her term. The baby weighed five and three-fourths pounds and lived.

Case 23 was one of those instances of overwhelming toxemia when all measures prove futile. Little could be learned of this girl's history. Somebody said she was a servant girl. She evidently was keeping her condition a secret, for no one appeared to know anything about it. All of a sudden she was seized with a convulsion at the home in which she worked. No time was lost in getting her to the hospital, where she was delivered in a very short time of a living child. She herself never returned to consciousness, dying within a few hours in profound coma. Just before death her temperature rose to  $107.2^{\circ}$ . With *veratrum viride* (15 drops hypodermically) we brought the pulse down from 140 to 100, but it rose again to 120, and had it not been so weak we might have ventured to repeat the dose.

The only point of interest about Case 19 is the scare I got from the use of the "HMC" Abbott tablet, one of which was given just an hour

before birth. The child was born in asphyxia. I regret to say that this is not the first time I have had such an experience, and I criticise my judgment in resorting to it on this occasion. A mother can well afford to bear her pain if at the end of labor she is rewarded with a vigorous child. In this case and in several others where I have experimented with the drug, I succeeded in resuscitating the child. If risked at all let such potent remedies be applied in the earlier stages of labor.

Case 30 was absolutely a painless labor. At least this is what the mother asserted. Following an impulse to use the vessel, she expelled the child.

Case 33 was one of partial placenta previa. In the seventh month she suffered a slight hemorrhage. The doctor who was first called in to see the patient anticipated the trouble it might give him, and so he shifted it on to me. It turned out kindly, however, and within a short time thereafter labor began, the head came down against the margin of the after-birth, the bleeding was stopped, and she delivered herself in due time of a premature child. Its exact age was not calculated. It weighed only three pounds. By keeping it extra warm it survived, the mother being able to nurse it at the breast. For two months it was markedly icteric.

Case 35. A woman 24 years of age, pregnant for the first time, was brought to the hospital in convulsions and unconscious. Of her previous history we could learn nothing. The child was born in the breech position, and was dead, perishing possibly from toxemia, though the birth of the after-coming head was considerably delayed. The convulsions continued to occur at frequent intervals throughout the day. Besides the hot pack, which was continued for ten or twelve hours, chloroform was given with each seizure. Ten minims of the tincture of *veratrum viride* were given twenty minutes after delivery and repeated four hours later and again in three and one-half hours. Forty minutes after delivery a quart of saline solution was given under the breasts, and a few hours later the same quantity was introduced into the rectum.

Case 36 was also one of eclampsia and so like the one just related that the picture of one might answer for both. Both got well and left the hospital in due time, the latter patient taking a healthy baby with her. The temperature elevation in each instance was between  $102^{\circ}$  and  $104^{\circ}$  for close on to a week, and I feel quite sure that this was due entirely to the toxemia and not to infection.

Case 44 was a young English Jewess, who had borne three children. During her married life she had seen her periods but two or three times, while in the interim between this child and the one before she had not menstruated at all. The size of her pelvis bordered very closely upon one of justo-major, being 24 cm. antero-posteriorly and 30 cm. transversely, external measurements.

We read in the older text-books of hour-glass contractions; our lecturers used to speak of it, too, as if it were a common thing. Either it must be rare or I have not been able to recognize it, for in a period of fourteen years I have seen but three cases, and two of these were within a few days of each other.

Case 47, a multiparous woman, was delivered by forceps of a child weighing eight pounds. Being somewhat hurried, I left before the third stage of labor was completed. This was not an unusual thing to do under normal conditions, since the patient was left in the care of a very competent interne and nurse. For several hours they waited and manipulated, but without success. After four hours I passed my gloved hand into the uterus and without much difficulty detached and brought away the placenta, which was

shut off, hour-glass-like, in one horn of the womb where it was held a prisoner. I saw the other case in consultation with Dr. C. N. McCloud soon afterwards, and had to deliver in the same manner. Both of these, and one seen with Dr. Parks Ritchie more than a year before, undoubtedly were examples of contractions taking place in the ring of Bandl.

Case 50 was one of twins. The placentæ were fused into one; the sacs were individual. Upon the rupture of the second amnion, the head was found to be extended, and further progress was blocked by a compound presentation, the arm and head both trying to pass through the pelvis at the same time. Introducing the hand into the vagina it was possible to push the fetal hand and arm above the inlet, flex the head, and hold it until a contracting pain caused it to engage. My other hand, pressed firmly against the head above the pubes, helped materially to keep it thus fixed. Two or three contractions of the uterus delivered the child.

To go into these cases more fully would, I fear, weary you, for I know full well my observations are not new; and, furthermore, I realize that I am speaking to physicians whose experience along this line is far greater than my own.

## EXOPHTHALMIC GOITER\*

By F. A. DUNSMOOR, M. D.

MINNEAPOLIS

In attempting a walking clinic of fifteen minutes before the society I was prompted to select three cases of exophthalmic goiter, differing in type and condition, yet demanding operations for their cure, which cure, I contend, has already arrived and is permanent.

I do not intend to discuss either the etiology or the pathology of goiter; whether it is neurotic, vascular, or glandular; or question whether an increase or perversion of gland-secretion; or whether it, *per se*, affects unfavorably all the functions of the body tissues.

You will probably welcome the briefest picture of conditions, the presentation of the patients, and the usual plea for surgery just before the demise of the patient is expected.

The reports of these cases are simply extracts from the hospital records.

Case 1, for secondary operation, shows the necessity of removal of nearly the entire gland in the type of Graves' disease outlined.

Case 2 will show that it is quite feasible to do extensive general surgery aside from the special work on the thyroid gland, while the patient is on the table for either condition.

Case 3 demonstrates that these desperate conditions must be treated surgically, and that we need not despair, however stormy the post-operative symptoms.

Case 1.—Mrs. R. T. M., Minneapolis.

Family history, good.

Personal history: Norwegian by birth. Has lived in this country twenty-five years. Is forty-five years of age. Weighs 120 pounds. Married twenty-one years. Two children, both living. No miscarriages. Had always been strong and healthy up to time of her marriage. Twenty-one years ago she noticed that her heart began

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.

to palpitate on exertion or excitement, with general weakness and enlargement of neck, increasing in size from year to year. Six years ago she was operated on by a surgeon of this city for ovarian tumor and prolapse of the uterus, and for plastic work on the cervix and perineum. Three years later she was operated on again by the same surgeon for goiter. A small part of the gland was removed, and some of the arteries ligated and drainage provided for. She was weaker after the last operation than before it; and three months after operation the thyroid began to grow again. She came to my office on March 11, 1908, for the purpose of having a diagnosis and prognosis made. She was examined carefully, with the following findings:

**Subjective symptoms:** Severe neuralgic pains in the head. Tachycardia increased on exertion or exercise. Want of physical and mental endurance. Depression of spirits and hysterical manifestation, restlessness on exertion, appetite impaired, loss of weight, vertigo, and constipation.

**Objective symptoms:** Enlargement of thyroid body, the right lobe being larger than the left. Protuberance of eyeballs. Increased frequency of heart's action, pulse beating from one hundred and fifty to one hundred and sixty per minute. The enlarged lobes of glands were hard. Subcutaneous veins were distended. Pulsation of the arteries is apparent to the eye, and a systolic arterial blowing murmur and continuous hum is heard over the thyroid region, resembling an aneurysmal varix. The patient has staring expression, very marked anemia and tremors of the fingers.

**Blood examination:** Examination of the blood shows a leucocyte count of 9500, and hemoglobin 65 per cent.

**Urine analysis:** Color, normal; specific gravity, 1020; acid in reaction; traces of albumin and a few hyaline casts, bacteria and epithelial cells.

**Diagnosis:** A diagnosis of exophthalmic goiter was made, and an operation for relief of this condition was recommended. To this she would not consent on account of her former operation. She had also been advised by other doctors who had examined her, not to be operated on. She was therefore given x-ray treatments, fifteen minutes every second day, directly over the gland. Internally she was given iron, spartein sulphate, strontium bromide, and strontium iodide. This treatment was continued faithfully from March 13th until August 20th, with no beneficial result whatsoever. On the contrary, the gland was

growing larger, and the heart-action was worse. On August 22d she consented to an operation, was admitted to the Swedish Hospital on the 26th, and operated on the same morning under general anesthesia, ether being used. Almost all of the gland was removed except a small portion on the left side. Drainage was provided in the lowest portion of median line of the wound, and continuous plain catgut sutures were used for the skin. The wound was dressed in the usual manner, the drainage-tube removed in thirty-six hours and the dressing changed. The patient was on the operating-table twenty minutes, and her general condition was good after the operation. The pulse was rather irregular six hours after operation, and she was therefore given, hypodermatically,  $1/30$  of strychnine and two drops of normal liquid digitalis every four hours. Twelve hours after the operation her pulse became regular, but remained quite fast. On the second day she had a slight rise of temperature,  $100.5^{\circ}$ . On the fourth day her temperature dropped to normal and remained normal until she left the hospital. The pulse began to gradually decline, and when she left the hospital, on September 3d, her pulse was 80 per minute. The patient slept and rested well all the time while she was in the hospital, and she was given solid food on the third day after the operation. The wound has healed nicely with the exception of a little sloughing in the center, which was due to infected catgut. Her general condition is very good and appetite fine. She has no palpitation of the heart, sleeps well, and is feeling strong; and, to use her own expression, she "has not felt so well in twenty-one years."

**Case 2.**—Mrs. E. S., Minneapolis.

**Family history:** Father died with nephritis; mother, from strangulated hernia.

**Personal history:** American by birth; 49 years of age; weighs 160 pounds; married thirty-one years; has two children; no miscarriages.

Her health had always been good up to eighteen years ago, when she began to notice an enlargement of the thyroid gland. This enlargement was gradually and slowly increasing in size, and two years after she noticed its appearance she began to complain of palpitation of the heart, shortness of breath, insomnia, tremors of the fingers, and general weakness. She consulted several doctors, who prescribed the ordinary line of internal and external medication for the tumor without any benefit whatsoever. Her condition was so bad that she could not lie down and sleep, the gland being so large that it pressed upon the



trachea, producing suffocation, and obliging her to sit up in a chair part of the night on account of dyspnea. It was about this time that the patient came to my office for consultation. She stated that she had an operation three years ago for catarrhal appendicitis.

**Subjective symptoms:** Severe palpitation of the heart, increased on exertion or exercise. Gets easily fatigued. Depressed in spirit; very nervous. Does not wish to associate with other people. Very hysterical; suffers greatly from insomnia and complains of shortness of breath, especially when she lies down. She also complains of pain in the lower part of the abdomen.

**Objective symptoms:** Thyroid gland is very much enlarged. Left lobe much larger than right; also has hard tumor over isthmus. Increased frequency of heart's action. Pulse running from 120 to 140 per minute. Protuberance of eyeballs. Face is bluish purple. The veins of the glands are greatly enlarged, and the tremor of the fingers is marked. Her voice is husky.

In addition to her exophthalmic goiter, the patient had hemorrhoids, leucorrhoea, lacerated cervix and perineum with retroflexed and prolapsed uterus. She also had a fibrous growth in each ear.

**Blood examination:** Hemoglobin, 85 per cent; leucocyte count, 13,500.

**Urine analysis:** Color, yellow; specific gravity, 1010; acid in reaction; granular sediment; albumin present; large amount of leucocytes.

On May 26, 1908, she entered the Swedish Hospital, and after the preliminary preparations was operated on May 27th under general anesthesia, ether being used. She was first curetted, the cervix and perineum repaired, and hemorrhoids removed. Then the abdomen was opened, and the pelvic adhesions were broken up. Cyst of right ovary was removed, and ventral suspension of uterus made. The fibrous growths on the ears were removed. Lastly, the thyroid gland was removed as in case No. 1.

This patient lost considerable blood on account of the enlargement of all the vessels of the neck, but she recovered very nicely from the operation. She had a slight hoarseness, due to squeezing of the recurrent laryngeal nerve in one of the artery forceps controlling the left inferior thyroidal artery, but on the fourth day the hoarseness disappeared and the patient could talk very distinctly without any effort. Her pulse gradually came down from 120 to 80 on the fifth day after the operation. Had one degree of fever on the second and third days. After that time her tem-

perature went to normal and so remained. The drainage-tube was removed on the third day. The wound healed by first intention. She was discharged from the hospital two weeks after the operation and reported to this office September 23d. She says she feels fine, sleeps well, and has no palpitation or difficulty in breathing, and that her general condition is fine.

*Case 3.*—Mrs. S. W., Minneapolis.

Family history, good.

**Personal history:** Norwegian by birth; has lived in this country for the last twenty years; 48 years of age; has six children, all living. Ten years ago she had erysipelas of the face. After she recovered she noticed a swelling of the thyroid gland. She became very nervous and had palpitation of the heart, losing weight and strength every year as the swelling of the thyroid gland became larger. In fact, she became so weak she could not walk up a stairway, but had to crawl up on hands and knees. She had very severe dyspnea on exertion. She also gradually became partially paralyzed on the right side and walked with difficulty, dragging her right foot. Was unable to do the ordinary light housework, and it was impossible for her to do any needlework on account of the tremor of the fingers.

When she came to my office, March 10th, she presented a pitiful picture. She had not slept for seven weeks, and was about 35 pounds underweight. It was impossible for her to lie down, as she said something was choking her, and previously what sleep she got was by sitting in a rocking-chair.

There was swelling of both feet and legs. Had vomited for several weeks, although she had been under good professional care.

**Objective symptoms:** She had an extensive enlargement of the thyroidal body, the right lobe being much larger than the left. Eyeballs were very prominent; tachycardia; pulse beating from 150 to 200 per minute. Is greatly emaciated and very pale. Tremor of the fingers very well marked. She has short, metallic cough. Has considerable swelling of feet, ankles, and legs, and she walks with an unsteady gait, dragging her right foot.

**Blood examination:** Shows leucocyte count of 10,000; hemoglobin, 50 per cent.

**Urine analysis:** Urine, straw color; specific gravity, 1014; albumin and a few casts present.

She entered the Swedish Hospital March 12, 1908, and was operated on the next morning. On account of her extreme nervous state at 6 o'clock in the morning she was given Abbott's

tablet of morphine, hyoscin, and cactine; also 1/30 of strychnine. At 7:30 she was given a second Abbott's tablet. At 8:30 she was operated on, a small amount of ether being sufficient to keep her soundly asleep. She was on the operating-table about fifteen minutes. Pulse, 140 after the operation, and respiration 26; skin, moist and warm. At 10 o'clock there was an increase in the pulse-rate, her heart beating so fast the pulse could not be counted, and she was given 1/100 digitalin. She was also quite cyanotic at this time, and oxygen was given. At 1 o'clock she received one drop normal liquid digitalis and one grain of codein. At 4 o'clock she complained of a great deal of pain in the abdomen, and was very restless. Was given another grain of codein with one drop of normal liquid digitalis, hypodermatically. At 9 o'clock her temperature went up to 102°, but declined in the morning to 100°. At 9:30 she was still very nervous and restless, and was given a teaspoonful of bromidia. During the day she had voided 27 ounces of urine, and had one small bowel movement. Her condition was most distressing. On March 14th she was very restless, semi-delirious, throwing herself about and had to be held in bed by force. Was given morphine to keep her quiet. Her pulse came down to 130. She took fifteen grains of sodium bromide every three hours. She continued extremely nervous and restless, constantly tossing for three days and had to be watched continually to be kept on the bed, requiring two attendants. The third day after the operation her temperature was 103°. After the third day the temperature fell gradually to 99°, and the pulse came down to 90. She had a nice restful sleep and awoke mentally bright and quite composed. From now on she progressed very favorably. Her temperature was normal and pulse 80. She slept well, and her general condition began to improve. She was now put on iron preparation with arsenic, and sat up in a chair on the seventh day.

She reported to this office a week ago, and looked the picture of health. She has gained 40 pounds in weight, and her normal strength. Walks without any difficulty at all, and has no tremors of the hands. She eats and sleeps well and does her own housework.

It is not my purpose to disparage any method of treatment of goiter, whether by internal or external medication, injections, Roentgen or Finson rays, galvanism or serum therapy. Naturally, as a surgeon I do not see many cases until they are discouraged after failure to get relief

following different attempts of cure from various sources. Doubtless they are the winnowings left over from a number of patients who have been successfully treated by the splendid efforts of the internalist. This fact admitted excuses the surgeon for believing that the radical cure in the distressing cases consist in practically extirpating the gland. The more alarming the symptoms, the larger percentage of the thyroid is to be removed. Indeed, Kocher says that the chief error of goiter surgery is in leaving too much of the gland.

*Technique.*—My preference is for the crescent-shaped, transverse incision, convexity downward. After dividing the platysma, incise the fascia in the median line, and ligate the superior and inferior thyroid vessels and any large veins in view. Dislocate the gland downward, shelling out the capsule save on the posterior surface, where it is left to protect the trachea or laryngeal nerves. When the capsule is divided or stripped, I ligate similar to lock-stitching quite around. In the substernal or thoracic types all ligations are complete before dividing the capsule. Drain for one or two days. Let the patient sit up on ability or pleasure. Patient's desires as to food, drink, or exercise are gratified.

#### PERSONAL OBSERVATIONS

The larger the tumor the better I am pleased to operate.

Exophthalmos, dyspnea, and smothering seem most frequently associated with hypertrophy and direct pressure of the tumor on the trachea. Tachycardia and neurotic disturbance are often most severe in the smallest tumor.

Fatalities are not so frequent from removal of the gland as from some other surgical procedure when the gland is untouched.

When death has followed surgery on the thyroid gland, it has been irrespective of local or general anesthesia.

#### DISCUSSION

Dr. C. H. Mayo (Rochester): Mr. President and Members of the Association: This is a most interesting subject. I am very sorry the patients did not have pictures with them showing the appearance before operation, so that we could compare their physical condition as it was then with that presented us now.

The doctor spoke of operative treatment, by which we see the surgical side, of course. The surgical treatment of exophthalmic goiter is growing the world over. During this year, out of 320 operations I have performed, 190 were for exophthalmic goiter. There is considerable difference in the mortality. In the early work we had only the bad cases and the cases that had survived long-continued medical treatment. In the early work I lost four out of sixteen, and during this

year I have lost three cases, two of them in Graves' patients and one simple ligation. This means only three out of 190 cases.

I had the good fortune last year to examine four patients that died in the hotel, having arrived in a moribund condition. These patients died without operation and while continuing their medical treatment, in from four to eight days. Some interesting comments can be made on such deaths. What did they die of? Not of the exophthalmic goiter itself. The goiter did not produce suffocation; it did not produce a condition of the blood that caused death, but at that time was the result of terminal degeneration,—degeneration of heart-muscle, fatty degeneration of the liver, a pulpy spleen, or degeneration of the kidneys. Now, if we do get bad cases sent us for operation, supposing we make a surgical operation and remove one-half of the gland, is that going to cure that condition of the liver and heart? Just because you operate and the patients do not die, is no reason why they will be cured.

Many of these cases are not diagnosed, as they have not given marked evidence of the disease. In early cases in early stages they are often under treatment for heart disease for months. In England today they do not consider these cases to be exophthalmic goiter or Graves' disease unless they have exophthalmic symptoms.

What is exophthalmos? An examination of the eye shows there is a little muscle attached to the orbital fascia and eyeball, and this muscle forces the eyeball out. If that condition exists for two or three years, operation can secure only a partial recovery. In three cases I have seen, the eyeball protruded from between the lids and it had to be restored to position.

Last year we sent out letters to 200 patients who were operated on for exophthalmic goiter. Out of the 200 cases ten, or 5 per cent, had died; 70 per cent were well, nine per cent greatly improved, and another 15 per cent improved, brought the result up to 94 per cent greatly improved. Today we not only have a fixed pathology from which the pathologist can get his data, but in 80 per cent he can give from the slide the symptoms of the individual case.

Dr. L. B. Wilson (Rochester): I would like to say something concerning the etiology of these cases. I made an examination of 294 of these cases, patients of

Dr. C. H. Mayo, up to the first of May of this year. In going over these carefully we felt that there was not enough attention paid to the etiology. You will pardon me if I speak of it here, because it seems to me it is of some importance to the surgeon who is going to operate on exophthalmic goiter cases.

In making these examinations it was brought out clearly to me that we had cases of very markedly different types. We have two general series of parenchymatous development. In one there is but a small increase of the number of alveoli; in the other there is a marked increase. In both the total amount of epithelium is much increased.

We have also stages beyond this. Besides the effects of hyperplasia, the increased number of epithelial cells, and the increased function of these cells, there follows degeneration of the tissue and the destruction of the functional power of the glands. That brings us to the point that if exophthalmic patients live long enough they are apt to get well. If they live long enough the process in the gland is a self-destructive one. Their secondary symptoms are not due to a condition of toxemia, but to the effect of the toxemia that has preceded. The patient has not any too much of abnormal thyroid material. In what percentage cases may we expect this to happen? I think the percentage is relatively small, but I want to call attention to it because I think it is one of the conditions in which operative procedure is going to get a black eye. There are many cases in which the patients need something to build up the epithelial function rather than to destroy what epithelium they have. These cases should never be operated on because of their exophthalmic symptoms, but if at all because of their choking sensations.

Dr. F. A. Dunsmoor (Essayist): As to the question someone has asked, I have noticed several times in the history of cases which have been brought in for operation, that there is a very great disturbance of the menstrual function along with other symptoms, but I have not noticed that sterility was associated with either type of goiter. I have known of many women with goiter bearing children, and some of those women who have borne children had the characteristic disturbances of the different types of goiter for years previous to the confinement.

## EYE, EAR, NOSE, AND THROAT CONDITIONS IN CHILDREN\*

By E. D. PUTNAM, M. D.

SIoux FALLS, S. D.

In diseased conditions of these parts in children prompt treatment is far more important than in adults. If taken early nearly all are curable or can be satisfactorily corrected, which is not true in the adult.

To detect all diseased conditions of these parts the physician should not only be on the alert in

cases under examination, but should be well equipped and familiar with the use of the usual instruments used to aid in diagnosis, making systematic use of them in all cases. He should have a good artificial light, a head-mirror, nasal and ear speculæ, a set of throat-mirrors, and a few probes or applicators. By the systematic use of these few instruments many things causing trouble will be detected which otherwise would

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.



be overlooked, thereby endangering the little patients' future welfare, or, at least would be left to be found by another physician at a subsequent examination, which never reflects credit upon the former man's ability.

I shall not attempt to enumerate the instruments that should be used in the treatment of such cases, as the list is exceedingly long, and it is more important that one use what he is accustomed to handling than to use what is really best.

All physicians have experienced the usual fright caused by the maneuvers necessary for an examination of a child. It is time well spent to make the acquaintance of children before attempting the examination. In rare cases often no attempt at making an examination upon the first visit is wise, if the case be one of no great hurry for treatment. This would not apply in any instance of foreign body, injury, or acute disease that was endangering the patient's life, or his sense of sight or hearing. Always avoid causing pain with the speculum. Most children, if not hurt at the beginning, will hold perfectly still when the ears are being examined. Often the screaming of a frightened child is an aid in examination of the throat.

Strabismus is a very frequent condition in children, caused, in most instances, by a defect in the refractive power of the eye, or to be more exact, by a refractive error. Most children are born with a too-short eyeball, which, as a rule, lengthens as the child becomes older, until the globe has attained its normal dimensions. This process may continue until the child has a too-long eyeball. Often one or both eyeballs will fail to elongate, which is frequently true in cases of extreme short eye. These cases generally develop a convergent strabismus. The higher the error, generally the earlier the deviation is noticed. It is in these early cases that valuable time is lost before treatment is begun, for the majority feel that their child is too young to have anything done for its eyes. While they are waiting for the child to become old enough for treatment, the fusion sense is being lost and the poorer eye is being doomed to be always useless. The occasional case that continues to elongate until the eyeball is too long may develop a divergent strabismus. While a refractive error is the most frequent cause of strabismus, any condition causing poor vision, such as congenital cataract, corneal scars, or any opacities of the refracting media, may result in strabismus.

The treatment must be begun early. Correcting lenses should be before the eye constantly. The use of atropine or a bandage for the fixing eye so that the patient will be obliged to use the squinting eye, is often of great help in educating the patient to fix with both eyes. Of greater value is the systematic use of the stereoscope to educate the fusion sense. Operative treatment is to be recommended only after other means fail. It takes a great amount of time and patience to deal with these cases properly, it often being hard to get the parents to co-operate with the physician.

The examination of these cases requires the eyes to be under a mydriatic, when the ophthalmoscope will reveal the presence of congenital cataract or opacities in the media, even to the eye of the beginner; while the more experienced will be able to judge fairly accurately as to the amount of refractive error, and may estimate it accurately by the use of the retinoscope.

Ophthalmia neonatorum heads the list of diseases of the eye in children that require immediate treatment to preserve good sight. These patients must be seen and treated daily by the physician. The frequent cleansing of the eyes of pus must be entrusted to some one other than the relatives, preferably a nurse.

In diseases of the ear it is occasionally necessary to administer an anesthetic, in order to complete the examination; however, many children, though timid, will hold perfectly quiet while the ear is being examined, if no pain is caused.

The tympanic membrane at birth is nearly as large as in the adult. The external canal is shorter and straighter. To bring the membrane into view the auricle should be pulled downward and slightly backward, while in the adult it must be pulled upward, outward, and backward.

Pain is the most frequent symptom complained of by these little patients. If too young to talk they indicate it by crying and pulling at the ear, perhaps shrill cries and rolling of the head. Often their complaining is very hard to interpret, and the attending physician is at a loss to account for the child's condition until he is informed by the parents that the child's ear is running, and the little one seems a great deal better. In the diseases of childhood it is well to make a routine habit of watching the ears.

The pain is generally due to congestion of the Eustachian tubes, tympanic membranes, or collection of fluid in their cavities. Upon inspection, instead of the flat, white membrane it will be red, and a part or the whole membrane will

be bulging. There will be no tenderness unless the mastoid process or external canal is involved. To determine this is not always simple. Often a furunculosis of the external canal is taken for a mastoiditis. At first thought the differential points seem too simple to need mention, but the tenderness, swelling, and general appearance in these two conditions are very similar. When the mastoid is really involved, the amount of pain is very misleading. It often grows less and the patient appears better when in reality a serious condition is forming. If the temperature continues elevated and there is tenderness over the mastoid antrum, with sagging of the upper wall of the canal, a positive diagnosis of mastoiditis may be made in spite of the patient seeming better.

In otitis media the mistake is sometimes made of waiting for the membrane to rupture. In all severe cases, and in moderate cases where heat and the use of warm glycerine are ineffectual, the membrane should be freely incised at once, to establish drainage and lessen the chances of involvement of other parts.

Unhealthy adenoid growths are responsible for the greatest number of ear diseases, and, aside from the exanthemata, are the cause of most all the diseased ears. In large quantities they prevent nasal breathing and the passage of air to the middle ears, which is followed by deafness and inflammation of the tubes and middle ears.

Besides the open mouth for respiration in these cases they give further evidence by the change in facial expression, which, if allowed to continue long, will result in a dull expression, attended by a dull mentality and frail body. Adenoid growths too small to obstruct nasal breathing are the most frequent cause of slight ear-aches and the so-called colds that children are subject to, also the periodic attacks of deafness so often noticed by parents. Thus it is a grave mistake to think that an adenoid growth too small to obstruct nasal breathing can do no harm.

For a long time physicians have generally recognized the ill effects of these growths on the physical and mental development of children, but it still remains to be impressed upon many parents. If the case is not an extreme one they are sometimes inclined to think the physician is making altogether too great a thing out of a little matter of mouth-breathing or snoring at night. Kyle has satisfactorily demonstrated the detrimental blood-changes that take place in a mouth-breather. That alone is

sufficient cause for immediate treatment, for no one would think of disputing the necessity of pure blood for the preservation of good health. This is very likely the cause of lack in physical and mental development. Added to this is the facial expression caused by using the mouth instead of the nose for breathing, which results in a deformity of the facial lines. And of still more importance is the danger of ear complications, resulting in deafness, of even death by inflammation extending to the mastoid process and brain.

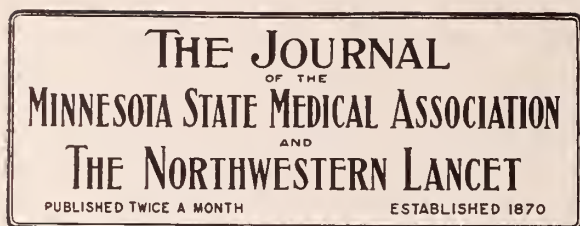
The only remedy is early removal—complete removal. These cases are frequently accompanied by enlarged tonsils. Tonsils are easily seen and are generally known about. Often tonsils are removed and the adenoid growth left. If either is going to be left, it should be the tonsils, but do not leave either. Remove them completely. Lack of nasal breathing and the consequent lack of nasal evaporation from the exclusion of air passing through the nostrils, causes a hypertrophied condition of the turbinates. The partial removal of such turbinates will aid in re-establishing nasal respiration; in fact a neglect to recognize this condition may defeat all efforts to obtain nasal respiration.

A thorough operation is of most importance to all concerned, for without it the patient's recovery is incomplete, and discredit may be brought upon the operator or the profession, and the parents may become discouraged and prevent others from having the treatment that will positively result in a healthy and often bright child. Most operations on the nose and throat, however, are soon followed with marked improvement, and the satisfied parents become our ethical advertisements.

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#### THE CARE OF THE MOUTH IN INFANCY AND CHILDHOOD

William J. Lederer, of New York, sums up the care of the mouth thus: It includes a number of ways of keeping the mouth clean; reduce oral sepsis as much as possible; render the buccal cavity alkaline; reduce dental caries and avoid it by frequent dental examinations and early filling; reduce inflammatory conditions and remove their local and systemic causes; avoid the untimely extraction of teeth; induce normal bodily functions and maintain and establish a physiological balance. To this he would add a rational mode of living for the pregnant mother, and rational feeding for the infant and child, such as to bring about proper development and calcification of the teeth.—*Medical Record*, December 5, 1908.



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MARCH 15, 1909

## MEETING OF THE STATE MEDICAL ASSOCIATION

The State Association will meet this year in Winona on October 12-14. Dr. Harvey Cushing, of Baltimore, will deliver the Oration in Surgery.

### PROGRAM FOR THE ASSOCIATION MEETING

The attention of every reader is called to the attached general letter from the Committee on Program for the meeting of the Minnesota State Association at Winona, on October 13th and 14th. Although the letter is a general one, it is to be considered a personal invitation to each and every one of the members of the State Association to get in touch with the program committee. It will be impossible to send out special invitations from each of the program committee, and hence if anyone has anything of interest to offer, it is suggested that he do so at the earliest possible moment.

An interesting feature of the meeting in October is that Dr. Harvey Cushing, of Baltimore, is to give the Oration in Surgery on the evening of October 14th. This should be enough to attract a large attendance, as Dr. Cushing is now recognized as one of the most advanced surgeons in the country.

The letter particularly specifies that the pa-

pers to be presented must not exceed fifteen minutes, yet, in order to insure something advantageous, the subject-matter must be from original work done by the writer. It is necessary, also, that the titles and abstracts of papers be in the hands of the State Secretary not later than May 1, 1909. This may seem like rushing matters a good deal, but experience shows that the early preparation of a program is urgent. Too long delays are fatal, and in order to stimulate further interest the advance program will be printed early in THE JOURNAL-LANCET in order that the men may be better able to discuss the subjects presented.

### TO SECRETARIES OF COUNTY SOCIETIES

The Committee on Program for the State Medical Association at Winona, October 13 and 14, 1909, desires to have a most instructive meeting on the above date.

Will you kindly request one or more members of your society to prepare a fifteen-minute paper on any subject of their selection pertaining to medicine or surgery? The subject of the paper, however, must be limited to original work done by the writer, showing advancements made within the two years past, or deductions from the work of others within that period tabulated and given in detail.

On surgical subjects the clinical cases should be sent, if possible, where they show new or advanced ideas. In order that duplication of papers on any subject may be avoided you will please have the writer of the paper forward to the Secretary, Dr. Thos. McDavitt, St. Paul, the title of his proposed paper, with a short abstract of not more than 200 words, on or before May 1, 1909.

The Committee wishes to secure the co-operation of the members of your society in order that we may obtain the best papers possible within the state.

Yours very truly,

F. F. WESBROOK, Chairman.

D. C. ROOD,

THOS. McDAVITT.

### THE WITHERSTINE AMENDMENT

Senate File No. 408, the so-called Witherstine bill, adds to Section 2340 the following amendment:

Provided, That this section shall not apply to regularly licensed physicians and surgeons out of the state of Minnesota, in the sale, compounding or dispensing of drugs, medicines or poisons, either directly or under the direction of any other registered physician or surgeon of the state of Minnesota.

This amendment is added to the Section in order that doctors in small towns, or in communities in which there is no druggist, may be permitted to dispense drugs to persons not their patients, and to physicians who urgently require emergency prescriptions. It is not presumed that this amendment will make all doctors proprietors



of drug-stores, but will give them an opportunity to supply smaller quantities of medicine to those who need small household remedies.

The druggists and pharmacists of Minnesota are opposing the amendment vigorously, basing their opposition on the ground that the new amendment would allow every registered physician to compound medicines for any other physician as well as for himself, not only for his own practice, but generally and indiscriminately.

The legislators have evidently been bombarded by circular letters from physicians and druggists, and they hardly know which way to turn. The country member will probably sympathize with the difficulties of the country doctor, believing that it is his right to ask the nearest physician for some drugs with which he is familiar. In many of the smaller communities the physicians are the only druggists in the town, and it may be a hardship at times for the general practitioner to deny himself the privilege of distributing his small stock for compensation.

If the Witherstine amendment is good, the country practitioner should have the benefit of it. In all probability no advantages will be taken of the opportunities to encroach upon the business of the druggist and pharmacist. The average physician is not over-anxious to carry a stock of drugs to sell. He is permitted to dispense any kind of drug in his own practice, and sufficient latitude should be given him to aid his fellow practitioner or to care for some emergency case in his immediate neighborhood.

This amendment does not seem to us vicious at all, and it should be allowed to pass.

### SPECIAL STUDY-COURSES

The special study programs of the Hennepin County and the Ramsey County Societies for March are printed herewith, they having been received too late for our March 1st number. They are printed in full, in order to show the character of the work these two societies are undertaking.

An interesting and important feature is the hour at which the study-course is given—from 1:30 to 2:30 P. M. This takes but one-half hour from the usual office hours of the city physician, and is preferable to the evening hour. In the larger cities evenings are so taken up with outside matters, work of committees, and needed hours of rest, that it is thought best to have an early afternoon hour.

This is a new departure for the cities, and its outcome will be of interest. In a measure, this new plan means post-graduate work, as it

takes up subjects that are of special value to the busy practitioner, and everyone should profit from the hour by close application.

The program offered by the Hennepin County Society is rather heavy; yet will be made doubly interesting because it is conducted by men who are thoroughly versed in their subjects. The program offered by the Ramsey County Society will appeal very strongly to the average man, but both are extremely valuable subjects for discussion.

### RAMSEY COUNTY SOCIETY

Meetings every Wednesday in the Library, Lowry Building, from 1:30 to 2:30

SUBJECT: OBSTETRICS

MARCH 3rd

1. Conduct of Difficult and Abnormal Presentations,  
Dr. Hartland Johnson  
Discussion led by Drs. Ogden and Nichols

2. Forceps, their Use and Abuse....Dr. H. T. Nippert  
Discussion led by Drs. Sneve, Bacon and Schwyzer

MARCH 10th

1. Placenta Prævia.....Dr. E. H. Whitcomb  
Discussion led by Drs. Eshelby, Rothrock and Savage

2. Indications for Cæsarian Section, Dr. J. L. Rothrock  
Discussion led by Drs. Bacon, Cannon and Ritchie

MARCH 17th

1. Puerperal Eclampsia.....Dr. Frederick Leavitt  
Discussion led by Drs. Senkler and Balcome

2. Post Partum Hemorrhage.....Dr. G. A. Binder  
Discussion led by Drs. Campbell and Sterner

MARCH 24th

1. Injuries to the Birth Canal.....Dr. J. C. Staley  
Discussion led by Drs. Dennis, Whitacre and Cameron

2. Puerperal Sepsis.....Dr. J. T. Christison  
Discussion led by Drs. Davis and Worstell

MARCH 31st

1. Care of Mother and Child during Puerperium,  
Dr. V. J. Hawkins  
Discussion led by Drs. Ghent, Peterson and Robinson

### HENNEPIN COUNTY SOCIETY

Meetings every Wednesday in the Medical Library Donaldson Building, from 1:30 to 2:30

SUBJECT: IMMUNITY

MARCH 10th

- Session 1.—(a) Immunity: Development of our knowledge concerning it. Dr. F. F. Westbrook  
(b) Natural Resistance..Dr. L. A. Nippert

MARCH 17th

- Session 2.—(a) Microbic Virulence .....  
.....Dr. S. Marx White  
(b) Toxins and Endo-Toxins.....  
.....Dr. Edward Fidler

MARCH 24th

- Session 3.—Ehrlich's Side Chain Theory.....  
.....Dr. H. E. Robertson

MARCH 31st

- Session 4.—(a) Lysins .....Dr. R. H. Mullin  
(b) Opsonins .....Dr. H. L. Ulrich

## SOUTH DAKOTA AND ITS BOARD OF HEALTH PROBLEMS

Our sister state of South Dakota has never been able to convince its legislators that a well-organized state board of health is a very great and grave necessity.

While a state is young and not densely populated, its board of health can take up the many problems which concern the public health in a more deliberate manner, and work out ideas that will be of value for future generations. They can study the various epidemic diseases, tuberculosis, and other forms of disease which may become more prevalent in the future, and, what is most important, they can prevent, in these early days, the pollution of streams and lakes.

The South Dakota State Medical Association began its campaign early in the season, but the legislators have placed a large obstacle in the way by their seeming indifference, and their lack of appreciation of the needs of the State Board of Health.

Notwithstanding the fact that only six per cent of South Dakota deaths are from tuberculosis, \$15,000 was asked for the founding of a sanitarium for tuberculosis. The Black Hills members are exerting themselves to secure this fund. The State Board of Health, however, has asked for the very modest sum of \$10,000, a wholly insufficient amount for the work and development of health measures. The physicians are very much disturbed by the possible outcome, and they threaten to follow every member of the legislature who attempts to kill or vote down the bill. They believe that by sending to every one of these obstructionists an abstract of the vital statistics, showing the deaths of children from diphtheria, typhoid, and other communicable diseases, and laying the responsibility for these preventable diseases on the heads of the opposition, such men will see the error of their ways and do better next time. It will be the same old fight over again. The State Board of Health is attempting to do something for the good of the people, and the indifferent legislators will have to be made to see the benefits and needs of general protection from communicable diseases.

Minnesota, fortunately, is on a safer footing and has had many years of experience, and the State Board of Health has been guided by sanitarians of wide ability and reputation. South Dakota will some day get in line. It would be an immense advertisement for the state if the State Board of Health could be organized at

the earliest possible moment on a basis that would enable it to do for the state that which is possible only when done early and done well.

## UNIVERSITY HOSPITAL SERVICE

Three years ago the University of Minnesota received a bequest of \$115,000 from the estate of Dr. and Mrs. A. F. Elliott, formerly of Minneapolis. Walter J. Trask, Esq., the executor of the estate, determined the application of this bequest to the building of the Elliot Memorial Hospital, to serve the needs of the clinical service of the College of Medicine and Surgery. The actual use of this fund has, in the wisdom of the Board of Regents, waited upon the development of plans for the new University campus, which expected provision by the Legislature now in session will complete.

That development promises the creation of a new Medical campus, upon which the Elliot Memorial Hospital and the future laboratory and clinical buildings will be erected. It is the admirable intention of the Board of Regents to place this new Medical campus upon a site overlooking the banks of the east and west bend of the Mississippi River. Here ground will be broken for the hospital building this spring.

In the meantime, the Faculty, realizing the urgent need for a larger and more centered clinical service, in addition to that which the public and private hospitals of the Twin Cities have been able to provide, has requested the Board of Regents to permit the equipment of a temporary hospital service and the organization of a training-school for nurses in certain of the recently acquired buildings upon the new campus. This request has been granted, and the temporary hospital and training-school were opened last week.

Formal announcement has been made to the medical profession of the state of this opening, which, as a beginning of the University Hospital service, is an event of so large importance that *THE JOURNAL-LANCET* is impelled to quote from the announcement at length.

## ADDITION TO UNIVERSITY HOSPITAL SERVICE

The Faculty wishes to take the opportunity of this announcement to ask the interest of the medical profession of the entire state in this new educational enterprise; to inform those whom it regards as its future colleagues in this movement of its scope and purpose; and to invite their approval or criticism of its plans.

The primary purpose of the University Hospital is an educational one in the service of the State of Minnesota. It will provide a great object lesson in prac-

tical medicine to its students. It is intended that its educational influence shall extend beyond the undergraduate body; that it shall actualize the possibilities of post-graduate study; and that it shall serve as an agency for the promotion of medical science throughout the state.

Its service will be confined, exclusively, to those residents of the state who are unable to pay for professional care and ordinary hospital charges. These patients will be drawn from all parts of the state upon the initiative of local physicians. Certificates, blank forms for which are provided, signed by the attending or family physician or by the city or county physician, will attest the facts of the patient's illness and pecuniary need. The hospital authorities will reserve the right to pass upon the clinical fitness of each patient for admission to the service and to determine the period of his desirable retention in the hospital. No other financial obligation is imposed upon the patient's admission than the provision, in advance, of his transportation charges to and from the hospital.

It goes without saying that a hospital devoted, primarily, to teaching purposes will spare nothing toward the attainment of the best clinical results. To this end, while the responsibility for treatment by each hospital clinician will be definite, cases and case-histories will be continually grouped by the several members of the teaching staff for purposes of study. As ample an opportunity as possible will be afforded to the physicians of the state, at all times, to inspect the hospital, to observe patients in its wards, and to follow up the laboratory investigation of cases.

The Faculty expects to issue, shortly, an announcement of its plans for post-graduate study.

The Training-School for Nurses will be conducted for the attainment of the best results in the education of the nurse, as the hospital will be maintained for the development of the best results in the teaching of the student of medicine. It will set a safe standard of initial fitness for the work. It will provide a preliminary four months' course of instruction for nurses in the laboratories and lecture rooms of the University; to be followed by a service of two years and eight months in hospital wards. Opportunities of dispensary attendance and of outdoor visiting nursing will be given to senior nurses.

The Faculty of the College of Medicine and Surgery counts upon the interested co-operation of every physician in the state in the upbuilding of its clinical service and it will court the opportunity to put the University Hospital to the scientific advantage of the medical profession of Minnesota.

## AN INJUSTICE UNWORTHY OF MEDICAL MEN

THE editor of THE JOURNAL-LANCET takes no pleasure in harping upon the troubles in his or the publisher's department of work, and he will not do so when such troubles are within his power to overcome; but there are one or two things about which he wishes to be very emphatic at this time, and he trusts that the neces-

sity for speaking again along the same line will not soon occur.

It is our custom, made so by necessity, to send to physicians who take part in discussions the stenographer's report of such discussions, in order that the speaker may revise the same. In most cases the discussion is entirely rewritten by the author, either because the stenographer has made an imperfect or very bad report, or because the speaker did not say exactly what he wished to say. A proper revision is in the interest of medical science.

Now, what happens? Many will return their corrected discussions only after weeks of delay, and many will not return them at all. As we sometimes have no duplicate copy, long delays in the publication of the article are caused, and the essayist, in his own summing-up discussion, makes reply to questions and points raised in the course of the discussion, and yet these questions and points do not appear in the printed discussion.

Has any man a moral right thus to cause his fellow practitioner and his medical society such annoyance?

Can we not open our eyes to some of our shortcomings and recognize plain duty when it is placed before us, and, seeing our duty, do it? Must a few men in the medical profession be forever allowed to go on in their thoughtless ways, bringing discredit upon the whole profession, as they have ever been doing and seem determined ever to do? We trust not, and we hope this protest will serve its purpose among the readers of THE JOURNAL-LANCET, for it is not a personal matter with us, but it is a plea for the proper consideration of others. It may be considered a plea also from the state secretaries whose work is increased many times by the same neglect and want of consideration.

## THE OUTLOOK

The Outlook is a weekly periodical with a monthly magazine issue. It is without doubt the foremost weekly journal in America. Its editors and contributors are men of marked ability, with ideals that are both high and practical; and, unquestionably, upon the realization of such ideals rest the perpetuity of our institutions and the welfare of our people. Unless the industrial institutions of a democracy come into harmony with its political and educational institutions, no such form of government can long exist. One of the aims of The Outlook is to bring about such harmony.



Every news item, comment, editorial, special article, sermonette, book review, or other form of contribution to The Outlook, is based upon the truth so far as the writer has been able to obtain the truth; and every expression of opinion is unbiased by low aims or selfish interest.

Ex-President Roosevelt sets forth in the current issue why he believes in the kind of journalism The Outlook stands for; and Dr. Abbott formally announces in the issue Mr. Roosevelt's future relation to the journal as associate editor. In the writer's opinion The Outlook is already too strong to be much benefited by such connection, and yet all must admit that Mr. Roosevelt is still to be a power for righteousness in this country, and therefore his connection with The Outlook in the capacity of associate editor is exceedingly fortunate, both for the country and for Mr. Roosevelt. It is equally fortunate for each, because Mr. Roosevelt is a very strong man with some of the faults of all strong men who do things; i. e., he is at times impetuous and perhaps somewhat imperious. Seated at the round-table of The Outlook where, we imagine, its policy is always determined, he will have associates that must be helpful to any man, for their opinions are respected because only opinions of able and high-minded men are current at that table.

But we are writing to make known to such of our readers as may not be informed the value to them and their families of what we consider America's foremost family journal; therefore we say, go subscribe for it, and you will thank us for this brief notice.

## CORRESPONDENCE

### INFORMATION WANTED

1424 E. Ravenswood Park,  
Chicago, Ill., March 1, 1909.

TO THE EDITOR:

I am collecting material for a paper upon atropine as a hemostatic, and will be obliged to any of your readers who will send me notes of their experience with this remedy. I am particularly anxious to receive adverse reports, as well as those favoring the remedy.

Very sincerely yours,

WILLIAM F. WAUGH.

An obstinate constipation may be due to an extreme retroflexion of the uterus, the organ lying in the hollow of the sacrum.—American Journal of Surgery.

## MISCELLANY

### SMALLPOX IN MINNESOTA

FIFTEEN WEEKS OF 1907 COMPARED WITH 15 WEEKS OF 1908

1907, with the regulations requiring strict quarantine of all inmates of infected homes. 1908, with modified regulations requiring restraint only of the sick and unvaccinated inmates of infected homes.

1907		1908	
Week ending—		Week ending—	
Oct. 7.....	11 cases	Oct. 5.....	4 cases
Oct. 14.....	6 cases	Oct. 12.....	8 cases
Oct. 21.....	45 cases	Oct. 19.....	8 cases
Oct. 28.....	59 cases	Oct. 26.....	14 cases
Nov. 4.....	59 cases	Nov. 2.....	11 cases
Nov. 11.....	92 cases	Nov. 9.....	17 cases
Nov. 18.....	43 cases	Nov. 16.....	18 cases
Nov. 25.....	57 cases	Nov. 23.....	25 cases
Dec. 2.....	62 cases	Dec. 1.....	25 cases
Dec. 9.....	81 cases	Dec. 7.....	67 cases
Dec. 16.....	152 cases	Dec. 14.....	51 cases
Dec. 23.....	170 cases	Dec. 21.....	82 cases
Dec. 30.....	259 cases	Dec. 28.....	66 cases
1908		1909	
Jan. 6.....	217 cases	Jan. 4.....	33 cases
Jan. 13.....	222 cases	Jan. 11.....	44 cases
Total ...	1,535 cases	Total .....	473 cases

## NEWS ITEMS

Dr. L. F. Elston has located at Hallock.

Dr. Hans Johnson has moved from Murdock to Kerkhoven.

Dr. R. V. Rogers has moved from Penn. N. D., to Bottineau, N. D.

Dr. Laura A. Lane has moved from Minneapolis to Rochester.

Dr. Edward J. Hagen, of Williston, N. D., is doing post-graduate work in Chicago.

A class of sixteen nurses graduated from the Minneapolis City Hospital the first of the month.

Dr. E. M. Darrow and wife, of Fargo, N. D., have returned from a trip to the Panama Canal.

Dr. A. E. Spalding, of Luverne, was married last month to Miss Alma Orth, of Lidgerwood, N. D.

Dr. F. A. Long, of Choteau, and Dr. Bateman, of Augusta, Montana, will build a hospital at Choteau.

Dr. M. Sherper, who formerly practiced in St. Paul, has moved to Minneapolis, and has offices at 729 Sixth Ave. North.

Dr. Charles B. Stone, who has been associated for some time with Dr. Turnbull in hospital work at Fosston, has moved to Karlstad.

The Duluth schools are to give medical inspection a trial for a month or two. The work will be done without expense to the schools.

The citizens of Montevideo have subscribed \$8,000 towards a hospital fund, and they believe that the city will soon have a hospital.

Plans for the new City Hospital building for Duluth have been practically accepted, three sets of plans having been submitted to the committee.

Richardton, N. D., is to have a hospital. The contract for remodeling the Grand Hotel for hospital purposes has been let. Dr. Strauss will conduct the hospital.

Dr. Witherstine, who is a member of the State Senate, has introduced a bill to define the practice of medicine and to permit no one to practice it without a diploma.

Dr. Loima B. Woolson, a homeopathic physician, who practiced in Minnesota in early days, recently died at the Odd Fellows' Home, at Northfield, at the age of 97.

Dr. A. L. Lloyd, of Leola, S. D., will move to Custer, S. D., leaving the former place without a physician. The opening is said to be a good one, Dr. Lloyd having practiced there for ten years.

Dr. R. H. Beach, of Brainerd, who has been associated with Dr. Walter Courtney for the past year, has moved to Dickinson, N. D., and formed partnership with Dr. V. H. Stickney, of that place.

Dr. Thor Moeller, of Minot, N. D., was convicted last month of performing a criminal operation, which resulted in the death of a young woman. The minimum sentence is ten years in the penitentiary.

The portrait of Dr. Parks Ritchie, late dean of the Department of Medicine of the State University, has been hung in the main hall of the Institute of Public Health and Bacteriology. The portrait is in oil and is the work of Albert Salzbreinner, of St. Paul.

Dr. George Douglas Head, of Minneapolis, starts for Europe next week. He will take the Mediterranean trip, spend a couple of weeks in

Naples, pass up through Italy, and thence to London. In his work he will confine himself to London and Edinborough, studying internal medicine, with the best men in the two cities.

The Alpha Kappa Kappa society of the Medical Department of the State University, held its eleventh annual banquet at the Commercial Club, Minneapolis, the last of February. Dr. Cornelius Williams, of St. Paul, acted as toastmaster. Toasts were responded to by Drs. Paul B. Cook, W. D. Kelly, J. Clark Stewart, Emil Geist, Richard Olding Beard, H. L. Ulrich, and others.

Dr. Daniel R. Brower, of the faculty of Rush Medical College, an old and prominent neurologist of Chicago, died there on March 2d. Dr. Brower has long been identified with medical education, and has numerous friends and pupils all over the country, particularly in the Northwest. A paper by Dr. Brower appeared in our last issue, and the revision of this paper for our columns probably was his last work of this kind.

The temporary hospital service and the training-school for nurses were opened by the Medical Department of the State University last week at 303 Washington Ave. S. E. The hospital takes no pay-patients, being exclusively for free-patients. Except in emergency cases, admission can be obtained only upon written application and by residents of Minnesota. Blanks for the purpose may be obtained by request to the University Hospital.

The superintendents of hospitals and training-schools in the Twin Cities met last month at the Cobb Hospital, St. Paul, for the purpose of organizing a permanent state association, to be known as the Minnesota Hospital and Training-school Superintendents' Association. The following officers were elected: President, Dr. P. M. Holl, Supt. City Hospital, Minneapolis; first vice-president, Miss A. H. Patterson, Supt. St. Luke's Hospital, St. Paul; second vice-president, Miss E. Weston, Supt. Northwestern Hospital, Minneapolis; secretary and treasurer, Miss L. H. Keller, Supt. Cobb Hospital, St. Paul. Those eligible to membership are heads of hospitals or training-schools for nurses without reference to sex, title, or denomination, and all those wishing to become members are requested to send their application to the secretary. Monthly meetings will be held at which subjects of value and interest will be discussed.





REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF DECEMBER, 1908

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	7	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Anoka.....	3,769	4,053	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Austin.....	5,474	6,489	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barnesville.....	1,326	1,566	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bemidji.....	2,183	3,800	6	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Blue Earth.....	2,900	2,364	4	2	..	1	..	..	..	..	..	..	..	..	..	..	..
Brainerd.....	7,524	8,131	12	..	..	2	..	..	..	..	..	..	..	..	2	..	..
Chaska.....	2,165	2,085	4	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Chatfield.....	1,426	1,300	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloquet.....	3,074	6,117	8	..	..	3	..	2	..	..	..	..	..	..	..	1	..
Crookston.....	5,359	6,794	5	..	..	1	..	..	..	..	..	..	..	1	..	..	..
Detroit.....	2,060	2,149	4	..	1	1	..	..	..	..	..	..	..	..	1	1	..
Duluth.....	52,968	64,942	61	16	1	2	..	4	..	..	..	..	1	..	1	2	..
E. Grand Forks.....	2,077	2,481	5	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Ely.....	3,712	4,045	5	..	..	5	..	..	..	..	..	..	..	..	..	..	..
Eveleth.....	2,752	5,332	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Faribault.....	7,868	8,279	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Fairmont.....	3,440	2,955	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fergus Falls.....	6,072	6,692	11	1	..	2	..	..	..	..	..	..	..	1	..	1	..
Granite Falls.....	1,214	1,340	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings.....	3,811	3,810	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hutchinson.....	2,495	2,489	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jordan.....	1,270	1,311	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake City.....	2,744	2,877	7	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Litchfield.....	2,280	2,415	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Little Falls.....	5,774	5,856	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Luverne.....	2,223	2,272	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Le Sueur.....	1,937	1,842	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madison.....	1,336	1,604	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mankato.....	10,559	10,996	12	2	..	3	..	..	..	..	..	..	..	..	1	..	..
Marshall.....	2,088	2,243	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Melrose.....	1,768	2,151	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis.....	202,718	261,974	243	21	3	26	2	9	1	..	..	2	8	4	15	..	..
Montgomery.....	979	1,281	4	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Montevideo.....	2,146	2,595	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Moorhead.....	3,730	4,794	6	1	1	..	..	1	..	..	..	..	..	..	..	..	..
Morris.....	1,934	2,003	5	..	..	..	..	..	..	..	..	..	..	..	..	2	..
New Prague.....	1,228	1,419	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Ulm.....	5,403	5,720	10	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Northfield.....	3,210	3,438	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ortonville.....	1,247	1,612	3	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Owatonna.....	5,561	5,651	6	..	1	..	..	..	..	..	..	..	..	..	1	..	..
Pipestone.....	2,536	2,885	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Lake Falls.....	1,885	1,797	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing.....	7,525	8,149	9	..	1	..	..	..	..	..	..	..	..	2	..	..	..
Redwood Falls.....	1,661	1,806	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Renville.....	1,075	1,229	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rochester.....	6,843	7,233	22	..	1	1	..	..	..	..	..	..	..	1	4	..	..
Rushford.....	1,100	1,133	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Charles.....	1,304	1,238	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud.....	8,663	9,422	6	1	1	..	..	..	..	..	..	..	..	..	1	..	..
St. James.....	2,607	2,320	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..
St. Paul.....	163,632	197,323	179	17	4	11	..	13	4	..	..	1	8	4	13	1	..
St. Peter.....	4,302	4,514	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Centre.....	2,220	2,463	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Shakopee.....	2,046	2,069	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sleepy Eye.....	2,046	2,312	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
So. St. Paul.....	2,322	3,458	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Stillwater.....	12,318	12,435	10	..	3	..	..	..	..	..	..	..	..	..	..	..	..
Thief River Falls.....	1,819	3,502	3	..	..	..	..	1	..	..	..	..	..	..	1	..	..
Tower.....	1,366	1,340	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tracy.....	1,911	2,015	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia.....	2,962	6,056	7	..	4	..	..	..	..	..	..	..	..	..	..	..	..
Wabasha.....	2,528	2,619	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Warren.....	1,276	1,640	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Waseca.....	3,103	2,838	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Waterville.....	1,260	1,383	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..
West St. Paul.....	1,830	2,100	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Willmar.....	3,409	4,040	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Windom.....	1,944	1,884	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Winona.....	19,714	20,334	16	1	..	3	..	..	..	..	..	..	..	..	..	2	..
Worthington.....	2,386	2,276	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..

\* No report received. Health officer not doing his duty.

## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF DECEMBER, 1908

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	1														
Adrian.....	1,253	1,184	0														
Aitkin.....	1,719	1,896	0														
Akeley.....		1,636	1														
Alexandria.....	2,631	3,051	3	1													
Appleton.....	1,184	1,321	1														
Belle Plaine.....	1,121	1,301	1														
Benson.....	1,525	1,766	2	1													
Breckenridge.....	1,282	1,850	4					2						1			
Buffalo.....	1,040	1,124	1														
Caledonia.....	1,175	1,405	1														
Canby.....	1,100	1,505	1														
Cannon Falls.....	1,239	1,460	4														
Cass Lake.....	546	1,062	2														
Chisholm.....		4,231	14			3	1	1							4		
Clayton.....	962	1,056	1														
Delano.....	967	1,023	2														
Fosston.....	864	1,000	2													1	
Frazee.....	1,000	1,146	2														
Glencoe.....	1,730	1,805	2														
Glenwood.....	1,116	1,718	1														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,423	2,055	1														
Hallock.....	905	1,014	1														
Hibbing.....	2,431	6,566	2	2		6		2									
Jackson.....	1,756	1,776	1														
Janesville.....	1,254	1,205	2														
Kasson.....	1,112	1,049	1														
Kenyon.....	1,202	1,252	2														
Lake Crystal.....	1,215	1,231	2														
Lanesboro.....	1,102	1,041	1														
Long Prairie.....	1,335	1,256	2														
Madelia.....	1,272	1,290	2					1									
Milaca.....	1,204	1,319	2	1													
Mountain Lake.....	959	1,063	1														
North Mankato.....	939	1,129	1														
North St. Paul.....	1,110	1,400	2				1										
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	1														
Park Rapids.....	1,313	1,719	1			1											
Pelican Rapids.....	1,033	1,095	2														
Perham.....	1,182	1,366	1														
Pine City.....	993	1,092	1														
Plainview.....	1,038	1,140	1														
Preston.....	1,278	1,320	1														
Princeton.....	1,319	1,704	0														
Rush City.....	937	1,041	0														
Rushford.....	1,062	1,040	4														
St. Louis Park.....	1,325	1,491	2	1													
Sandstone.....	1,189	1,589	1														
Sauk Rapids.....	1,391	1,552	3					2									
Scanlon.....		1,122	0														
South Stillwater.....	1,422	1,572	1														
Springfield.....	1,511	1,546	3					1									
Spring Valley.....	1,770	1,573	1														
Staples.....	1,504	2,163	1														
Two Harbors.....	3,278	4,402	4					1									
Wadena.....	1,520	1,868	1														
Wells.....	2,017	1,814	1														
West Minneapolis.....	2,250	2,530	1														
Wheaton.....	1,132	1,346	1														
White Bear Lake.....	1,238	1,724	3			1											
Winnebago City.....	1,816	1,553	1					1									
Winthrop.....	813	1,031	1														
Zumbrota.....	1,119	1,129	1														
State Institutions.....			42	13	1	2		1						1		1	
Other parts of State.....	1,012,328	1,085,886	630	53	6	71	3	17	6		3	2	1	7	13	24	2
Total for State.....	1,751,395	1,979,658	1533	139	19	163	7	62	11		3	2	5	31	38	82	3

117 Still births and premature births, not included in above totals.

\* No report received. Health officer not doing his duty.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

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## A RECORD OF THE FIRST YEAR'S WORK AT THE MINNESOTA STATE SANATORIUM

By WALTER J. MARCLEY, M. D.

Physician in Charge

WALKER, MINN.

In deciding upon the admission of applicants to the Sanatorium during these first few months it has been thought right to place a very liberal interpretation upon the term *incipiency of the disease*, as many cases of so-called moderately advanced or even of far-advanced pulmonary tuberculosis may respond well to sanatorium treatment. In my admissions I have followed the rule of taking the very early, hopeful, or "incipient" cases at once. If vacancies have existed and patients of that class were not applying, I have admitted the best of the other classes. Now, for some time there has been a "waiting list" of these hopeful cases of the moderately advanced and far-advanced classes. At no time, with one exception, have I admitted a hopeless case, i. e., one for whom there seemed to be no chance of good improvement. The exception was a young woman whose record of examination was dated two months previous to admission, but whose reports in the interim *seemed to be* favorable. However, upon admission after a long journey she was found to be hopeless, and death followed three days later. This has been the only death during the year.

There were 184 admissions during the year, representing 54 counties; 58 of this number remain in the Sanatorium, January 1, 1909.

There are therefore 126 patients to be reported upon. Of this number 48 are classed as "not considered," because they remained a very short time, averaging twenty days. Of these not-considered cases, 8 were doubtful, entering for "observation," the tuberculo-ophthalmic test proving negative in 6, and the subcutaneous test negative in 2, cases. They were discharged as non-tuberculous. Another case refused to remain and take the test. Seventeen of the unconsidered cases were admitted for a short trial-period and were later discharged as unsuitable. Some of these people came long journeys, unheralded, with bag and baggage, prepared to be placed at once on the happy road to speedy recovery. It seemed only fair and reasonable to give them the benefit of any doubt, allowing them to remain for a short time for trial, so long as their presence did not keep out the more hopeful and proper cases. The remaining number of the unconsidered cases left against advice, often because of home conditions, some because of homesickness.

Of the total number discharged (126) there were 64 men and 62 women. By far the greater number were between 20 and 35 years of age. Applicants over 50 years of age or under 15 years are not favorably considered. Thirty-five



per cent were American-born of American-born parents; twenty-one per cent were American-born of Scandinavian parentage, and twelve per cent were American-born of German parentage.

The study of occupations is interesting as bearing upon causation of the disease. Of the cases under consideration 74 per cent were engaged in indoor occupations. Of the remaining number, 13 were farmers. This is 10 per cent of the total number considered. Of these 13, eight were bad cases who were either discharged after a trial period or who made poor progress later.

Forty-six cases, or 36 per cent, had hemorrhages previous to admission; 5 had hemorrhages in the Sanatorium; 26 per cent had not had sputa examinations prior to admission. In 61 per cent tubercle bacilli were reported present, and in 13 per cent absent. In the Sanatorium many and repeated examinations made a few changes in these reports. Of those that had no bacilli either before admission or after entrance, 2 reacted to diagnostic tuberculin, a few, as reported above, did not react and were discharged as non-tuberculous, while in others signs existed which were considered positive.

Of the 126 cases 17 were found to have tubercular laryngitis, 11 of this number being classified among the "considered" cases. Of these, 2 were discharged with the laryngitis apparently cured, 5 improved, and 4 unimproved.

Other complicating conditions of interest in the considered cases are—

Appendicitis—One case (operation at the Walker Hospital, with recovery).

Acute Tonsillitis—Four cases, cured.

Chronic Nasal Catarrh—Six cases, five improved.

Compensated Mitral Insufficiency—Two cases.

Fistula in Ano—Two cases, improved.

Peritonsillar Abscess—One case, cured.

Suppurative Otitis Media—Two cases, improved.

In classifying the considered cases (78) I have employed the schema adopted by the National Association for the Study and Prevention of Tuberculosis. The terms used are explained as follows:

*"Incipient"*—Slight initial lesion in the form of infiltration limited to the apex of one or both lungs or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twen-

ty-four hours, especially after rest. Expectoration, usually small in amount or absent. Tubercle bacilli may be present or absent. No marked impairment of function, either local or constitutional.

*Moderately Advanced*:—Localized consolidation, moderate in extent with little or no evidence of destruction of tissue or disseminated fibroid deposits. No serious complications.

*Far Advanced*:—Marked impairment of function, local or constitutional. Localized consolidation intense, or disseminated areas of softening, or serious complications.

*Apparently Cured*:—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

*Arrested*:—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive. The foregoing conditions must have existed for at least two months.

*Improved*:—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

*Unimproved*:—All essential symptoms and signs unabated or increased."

It will readily be understood from the foregoing that to be classed as "incipient" a patient must present but *very slight* signs of disease, including slight, if any, constitutional symptoms. At this stage in the Sanatorium's existence it is difficult to "catch" the case in time to enter him under "incipient." Furthermore, all cases offering a localized consolidation more than "moderate" in extent, or with more than a "little" evidence of destruction of tissue, or with a more or less disseminated fibroid condition of one lung, even though there are no serious complications, must be classed as "far advanced." Many of these may make very satisfactory improvement. It is extremely desirable, however, that all sanatorium patients should be incipient, as in these cases the length of stay is shorter and the results of treatment are better and more lasting. The necessity, therefore, of *early diagnosis* should be kept constantly in mind.

Record of 78 cases who remained longer than one month:

*Incipient*—Twenty-one cases, or 27 per cent of entire number; average length of stay, 3 months and 16 days; apparently cured, 2; arrested, 6; improved, 10; unimproved, 3.

*Moderately Advanced*—Twenty cases, or 26 per cent; average length of stay, three months and 21 days; arrested, 3; improved, 12; unimproved, 5.

*Far Advanced*—Thirty-seven cases, or 47 per cent; average length of stay, 3 months and 4 days; arrested, 1; improved, 21; unimproved, 15 (including 1 death).

Eighty-six per cent of the incipient, 75 per cent of the moderately advanced, and 60 per cent of the far advanced cases were discharged as apparently cured, arrested, or improved.

Seventy-one patients gained in weight, averaging 9 pounds. One remained the same, and six lost weight.

Of all three classes, 2 per cent were discharged apparently cured, 13 per cent as arrested, and 55 per cent as improved. As shown above, in the explanation of terms "arrested" and "apparently cured," a prolonged residence in the Sanatorium is necessary after the patient feels practically well. It is difficult to keep such patients in the institution long enough to tabulate them under these headings. No doubt many of the cases reported here as "improved" would have been arrested or apparently cured could they have been persuaded to remain longer.

As the people become better acquainted with the real nature of this disease, its insidiousness, and the *uncertainty* for a few years at least of an apparently cured condition, even in the best cases (and herein lies one of the educational opportunities of the Sanatorium), we shall be better able to hold our patients under observation for a longer period of time, with a consequent better record of permanent cures. An apparently cured case under this classification may be tabulated as "cured" when "all constitutional symptoms and expectoration with bacilli are absent for a period of two years under ordinary conditions of life."

In addition to the hygienic-dietetic treatment, tuberculin has been employed in selected cases. The time has been too short and the cases too few to have made statistical matter of much value. The same is true of the auto-inoculation treatment, which has been going on for some months. This promises to be an interesting feature for future development.

The appended tables are prepared in order that comparison may be made if desired with similar reports published by other sanatoria.

## SUMMARY

CLASS	Extent of Physical Signs According to Turban	T. B. found at any time	Hygienic-dietetic treatment without tuberculin. Patients who remained over 90 days. Average residence 135 days.				
			Cases	Ap. Cured	Arrested	Improved	Unimproved
Incipient	I	0	4	1	1	2	
	I	+	4		1	1	2
Moderately Advanced	II	0	2		1	1	
	II	+	3			2	1
	III	+	1			1	
Far Advanced	III	+	9			6	3

## SUMMARY

CLASS	Extent of Physical Signs According to Turban	T. B. found at any time	Hygienic-dietetic treatment with tuberculin. Patients who took tuberculin more than 90 days. Average residence 200 days.				
			Cases	Ap. Cured	Arrested	Improved	Unimproved
Incipient	I	0	1		1		
	I	+	1	1			
Moderately Advanced	II	+	3		2	1	
	III	+	2			1	1
Far Advanced	III	+	4		1	3	

## RESULTS OF SPUTA EXAMINATIONS OF PATIENTS WHO REMAINED OVER 90 DAYS.

CLASS	Extent of Physical Signs According to Turban	Treatment	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	P	A	R	D
			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Incipient	I	Without Tub.	2		1													4		1	
	I	With Tub.																1		1	
Moderately Advanced	II	Without Tub.	2		1													1		1	
		With T.	2		1																
	III	Without Tub.	1																		
		With T.	2																		
Far Advanced	III	Without Tub.	9																		
		With T.	3														1				

NOTE.—O, Tubercle bacilli absent. +, Present. A, Admission. R, During residence. P, Previous to admission. D, On discharge. When T. B. were present on admission, no note is made with regard to previous examination. When T. B. were present previous to admission and also at any time during residence, they are marked as present on admission.

Applicants are required to have lived at least one year in the state immediately previous to date of application, and to be able to meet the charge of \$7.00 per week for treatment. Many of the counties have assumed this responsibility. Official examiners have been appointed in the various counties of the state. The fee for examination is paid by the state. A physician wishing to send a patient here should apply to me, sending full particulars regarding the pa-

tient's condition. A list of such applications is kept. When there is a prospect of a vacancy an order is sent for an examination. In deciding upon an applicant's eligibility it is extremely desirable to have a record of the temperature and pulse covering a fortnight or longer.

In conclusion, I wish to extend to all the physicians of the state a most cordial invitation to visit the Sanatorium at any time.

## LACERATIONS OF THE PARTURIENT CANAL; THEIR PREVENTION AND IMMEDIATE TREATMENT\*

By DAVID L. RUNDLETT, M. D.

SIOUX FALLS, S. D.

It is not the purpose of this paper to present new thoughts or ideas on this subject, but its intention is to emphasize the necessity of the proper observance of all injuries to which the parturient canal is subjected. We have undoubtedly reached the position in modern methods of asepsis and technic where it should be a disgrace to the obstetrician of today to leave many lacerated cervixes and perineei to the after-care of the gynecologist, to say nothing of the almost permanent invalidism of the patient, not only as to the pelvic organs and generative canal, but also to the one great bane to all physicians, the nervous and neurasthenic conditions of these patients, despite all the success gained in a reparative way by later operations. An inspection of a great many cases repaired by the gynecologist will show perfect union and function of the perineum and uterus, but still a train of nervous symptoms follows. We have only to revert to the fact, that before these cases met with injuries in their parturitions they were healthy and normal individuals, as respecting their nervous history; and so it becomes a duty, which is more and more necessary, that the obstetrician of today shall, at least, be skilled enough in his profession to intelligently care for these cases. Indeed, it becomes a matter of serious import, as to whether the ordinary midwife as licensed by our state boards, is perfectly qualified to attend to this particular phase of obstetrical delivery. One might say that it is all right for a midwife to attend a case so long as she is able to intel-

ligently detect the presence of these injuries, so as to call upon the surgeon to repair them. As a matter of fact, how many of these midwives do detect injuries? How many cases are surgeons called upon to repair immediately? It is my impression that very few of these cases are attended immediately by surgeons. It is only when the train of symptoms begins to develop that they reach the hands of the surgeon. While the licensed midwife comes in for a share of the responsibility in these cases, it is still worse to find that a great many cases reach the surgeon that were attended by reputable doctors and apparently without any knowledge, on the part of the patient or even the doctor, that an injury occurred at delivery. Inquiry will often elicit from these patients the information that the attending physician did not even examine them after delivery. How then can he state that his patient went through a successful parturition?

Consideration shows that lacerations of the cervix uteri often, and in fact with very few exceptions, can be laid to injudicious care on the part of the attending physician. Fortunately, one of the acts of nature permits a sufficient amount of elasticity of the cervix, so that rarely an abrasion occurs if left alone. It is to the credit of the midwives that few injuries to the cervix result in their cases, and this for the plain reason that they are left alone. On the other hand the doctor, to hurry up the process of delivery, either by the use of drugs or by mechanical interference in too early rupturing the membranes, or by manual and irregular dilatation of the cervix, or by the use of forceps before dila-

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.



tation is complete, becomes the injudicious factor in the production of a great many cervical tears. If this stage of labor is protracted and tiresome to the party, it would be far better to give an anodyne for rest to the patient than to use the hurrying process, because the same slow influence at work in the first stage will only be exaggerated in the second stage. On the other hand, a great many deliveries can be shortened, and their cervices can be aided in the process of dilatation, by a gentle stretching rotary manipulation with the index finger or, possibly, with two fingers. If a condition of a soft dilatable cervix does not exist, it is far better to leave the process to nature. Later, as dilatation is almost, but not quite, complete, as the occiput engages in the superior strait, it is often recommended by authors to push up the rim of the cervix over the occiput. This, in my opinion, is one, if not the prime, factor in small cervical tears. It is so frequently forced up over the engaging occiput that a tear is bound to result. Here again a gentle rotary dilatation with the finger will assist it, without forcing or stretching at one point, to ride over the occiput. Emphasis cannot be put too strongly on the fact that forceps should never be put on until dilatation is complete, for the reason that each blade of the forceps in a high forceps application stretches the cervix unevenly. A little stream of blood will often establish the fact that a cervical tear has occurred, even before the first strong traction has been made, still the obstetrician is not content to wait, but pulls and pulls on his forceps until, not dilatation, but tear enough has been produced to permit the head to escape the cervix. Afterwards, the doctor contents himself with the thought that it was a hard instrumental delivery and something must tear in these cases, when, in reality, it was his injudicious and untimely use of the forceps.

Granting that a tear of the cervix has occurred, opinions differ as to the advisability of immediate repair. Some go even so far as to state that successful primary union rarely occurs. The fault usually lies with the technic: first, improper apposition of the torn edges; second, on account of the relaxed and unusually edematous condition of the cervix the stitches are placed so loosely that union does not take place.

Every torn cervix that can be detected easily with the fingers, should receive surgical treatment at once. There is only one contra-indication, and that is hemorrhage with its resulting shock, but even this condition may right itself

within twenty-four to thirty-six hours, when even then it is proper to repair the cervix. If, however, the hemorrhage should be from the cervical artery, then it becomes absolutely necessary to at once ligate or stitch, or both, as necessary; and while I am at this point I want to cite a case, briefly, to show that where we have a very rigid cervix due to advanced age, it is my opinion that it is a far better procedure to cut the cervix laterally with blunt-point scissors as far up as the fornix, if necessary, than to try and force the head through the rigid os.

The patient was a woman, 39 years of age. She had married a young man nearly twenty years her junior, and as a consequence of union she became pregnant almost as soon as married. I was called and found the patient having severe pain, which kept up for eighteen hours. The cervix dilated to the size of a silver dollar, and then refused to dilate further. As the patient was tired out, I gave her 60 grains of chloral hydrate in twenty-grain doses at half hour intervals, from which she obtained about six hours sleep, waking up refreshed, but with increasing pains. I let her go in this condition about ten hours more, hoping that, as the membranes had not ruptured, nature might accomplish dilatation. Finally, during a severe pain, the membranes ruptured with an almost total escape of the amniotic fluid. There being no advancement, I then made up my mind I would have to interfere. Chloroform was given to full surgical anesthesia by an assistant, and I dilated the cervix with my fingers to the size of my fist, though it was a slow and tedious process. I then applied high forceps, but was unable to draw the head through the cervix, it appearing as a rigid, blue ring around the presenting part, and traction seemed to pull the whole uterus with it. Taking a pair of long-handled, straight, blunt-pointed scissors, I insinuated one blade between the head and the cervix and cut on each side nearly to the fornix. I was obliged to hasten my operations from the fact that I had cut the cervical artery on one side, and the woman was bleeding rather freely. I rapidly extracted the child, and while waiting for the placenta inserted silkworm-gut sutures in the side of the cervix, including the artery. As soon as the placenta came along, I did the same with the other side and obtained perfect primary union. I feel far better than had I allowed the parts to tear.

Repair of the cervix in general is best done in the dorsal position, with the hips over the edge of the bed, the legs and thighs flexed, and held by assistants, not necessarily trained. A

perineal retractor is usually necessary. Tenacula placed in both lips of the cervix and drawn down firmly, will usually stop all uterine hemorrhage. Two or three stitches in each tear is usually all that is necessary. An anesthetic is not usually necessary. In fact the patient hardly ever feels the pain of a cervical stitch, especially if immediately following the pressure of childbirth. Chromicized catgut is to be preferred, but the stitches must be tied tightly, on account of the usual edematous condition of the cervix. Ten to fifteen minutes is usually all that is necessary to do the work nicely. If union does not result, you have at least the satisfaction of having made the attempt, which is in itself a great satisfaction to the patient in case she has to resort to the gynecologist later. Usually after the completion of the third stage of labor, an examination will reveal a widely dilated, flabby cervix, which if properly moulded together would aid in primary union of small tears not deep enough to be stitched.

A great many of the principles applied to the proper management of the first stage of labor, apply as well to the management of the second stage, or the perineal delivery, but here we find that the physician in his case exercises a limitation in a degree, if not entirely a prevention of perineal tears, while the licensed midwife increases her ratio of injuries by lack of proper care. The older writers told us that we should support the perineum. No statement ever made was more erroneous than this, if applied as was literally meant in their teachings. As a matter of fact, the maxim should have been "delay the head." The continued pressure of the hand on the already stretched perineum would only tend to further rip the tissues. Here again we have a fundamental principle of patience. It is the experience of the writer that it is far safer to the perineum to deliver the child with the patient lying well over on her side with the thighs and knees well flexed against the abdomen and supported either by a pillow or the hand of the nurse or assistant. In this position the presenting head can be delayed more easily until such a time as the perineum can be safely stretched to permit the exit of the child. Certainly, in this position rectal cleanliness and antiseptic bathing of the vulva, perineum, and rectal region, can be carried on more safely and successfully than in the dorsal position.

The writer has not used the dorsal position in any delivery for the past two or three hundred cases, except in breech delivery. Fortunately, nature permits a satisfactory dilatation of the

perineum, if allowed to do it slowly. The frequent bathing with hot solutions of lysol aids in this. Frequently it happens that the head remains on the perineum, when it requires only a slight effort to deliver. It is frequently advised in this stage to insert the index finger in the rectum to aid an expulsion. The writer mentions this procedure only to condemn it, first, because of the danger of infection, for that finger will not again be properly cleansed before the completion of the third stage; second, because it is absolutely unnecessary, for there is no case in which, with the patient on her side, it is not possible to gently push the perineum back over the head with less danger to it; and, thirdly, because this procedure in itself only tightens the girdle more and makes tearing more imminent. There are certain cases where the attendant is absolutely certain there will be a perineal tear. In such cases the practice of the writer, when the head is emerging during a contraction of the uterus, is to insinuate one blade of a pair of straight scissors between the head and the perineum, cutting such amount of perineum as is necessary to conclude the delivery. I make the incision in the median line and not on the sides or sulci, as suggested by some authors in the operation of episiotomy. It becomes a surprise at times to see what a small amount of cutting is necessary to deliver the head, it never being necessary to cut through the sphincter muscles, but only including skin, fascia, and mucous membrane. By this method you have an absolutely clean, unragged surface, with a certainty of being able to approximate the edges. The writer has adopted this procedure in a great many cases, and has yet to see one that did not heal perfectly by first intention. The lateral operation of episiotomy is not to be desired, for the reason that you make two incisions, and that you are more liable to cut through the transverse perineum muscles and other important structures which you are desirous of saving. The same principle is adapted to forceps' deliveries generally in the side position, with the precaution of always removing both blades of the forceps before the final extraction of the head. In very high applications, or in very narrow canals, it sometimes proves less difficult to apply the forceps with the patient in the dorsal position, and then roll the patient into the left-sided position, as the head presents at the perineum. If, however, a laceration has occurred, it becomes only a question of the proper apposition of the torn area, trimming of the ragged edges, and being very careful to unite



with buried catgut or kangaroo tendon sutures, the torn ends of the sphincter muscle, if they be contracted, which is usually the case. If the rectum is involved, the stitches should be placed deeply to include the sphincter muscle, and closely enough placed so as not to leave a dead space in any part of laceration. The rectum should be united from within its caliber by silkworm-gut sutures, which include only the mucous membrane, the ends being left long to facilitate their removal later, generally under an anesthetic.

I have tried catgut, but have not obtained as good results as with the former suture material. Any suture material may be used for the vaginal or perineal laceration, chromic or plain catgut, if a running or buried suture is used, and silkworm-gut if interrupted sutures are preferred. If the laceration is not deep, perfect union will follow ordinary catgut. Silk is used by some with entire satisfaction. The left-sided position is always employed by me during suturing.

There is a class of tears of which I will now speak. They are the vaginal tears. We have them extended sometimes well up, usually made by the blade of the forceps adjusted so that the side of the blade comes out and grips the tissue by improper constriction. I have had reasons to think, and know, that it has been done in cases of mine, and have seen it done in cases of others. These vaginal tears usually heal themselves. If there is great difficulty in getting the patient well sutured there is some satisfaction in knowing that these usually heal themselves. Sometimes there will be a surface of the vagina that will be split, not cut through, but split towards the rectum. It may be a flap half an inch, perhaps an inch. These cases should always be sutured. If too deep and bleeding they should be sutured anyway, but the special reason why these should be sutured, is for the after-condition. If a broad raw surface is left to heal by granulation, there will be usually a cicatricial tissue that will always be tender and painful to the patient for months afterwards, and that is apt to be a point for infection. As we examine the case later, we find there is a thickened broad ligament on one side or the other, and very many times these cases are due to the connection of the lymphatics which go to the broad ligament from the vicinity of these vaginal tears. The after-treatment of these cases is of prime importance. The rectum should never be allowed to become packed, for the pres-

sure of fecal masses would seriously interfere with deep union. The bowels should be opened on the following day by some laxative, preferably a saline, and should be kept loose or fluid until complete union. Stitches may be removed in from six to ten days. It is not necessary to catheterize such patients, but irrigation, preferably of normal saline or weak lysol, poured from a pitcher while the patient is in a dorsal position on the bed-pan, should immediately follow each act of urination or defecation. If stitch-infection should show itself, the earlier the stitches are removed and the surfaces cleansed, the better, for even then there is a chance of permanent union.

One word should be said in a general way with reference to the immediate preparation of a patient for delivery, and that is that the rectum should always be emptied by enemas before delivery. This is very frequently neglected by nurses, and thus constant soiling takes place. At any rate, if it has not been done before delivery, it should be done afterwards and before any repairs of laceration are made.

#### DISCUSSION

Dr. W. E. Moore (Tyndall): I have always found that prevention was about the best of anything, and I have always been careful to prevent tearing or rupture of the perineum. I have never been so much afraid of tears from the head as from the shoulder, and in delivering the child I have always been very careful to rotate the shoulder so that it would not come into contact with the lower part of the perineum, and I find very seldom I have a ruptured perineum. I do this when I am careful, and in delayed cases, sometimes where the delivery seems to be rather tedious, I find a full bladder interfering very much, sometimes unexpectedly. Those two things I find in my practice have helped me out a good deal to prevent a tearing of the perineum.

I have never been much afraid of a rupture or tearing of the perineum by the head. That can usually be prevented, I think.

Dr. E. M. Doyle (Yankton): I must agree with Dr. Moore that the paper is very ably written and brings out many good points, but there are some things that the writer stated in his paper from which twenty years of experience have led me to differ. I prefer the dorsal position in effecting an instrumental delivery, because it brings the genito-urinary tract in line with the operator, thus making the application of forceps and the delivery of the child easier, at least, for me. I cannot agree with the writer of the paper that there is less danger of infection in the side than in the dorsal position if the parts are rendered aseptic at the beginning of labor, as in many cases during labor the bowels defecate one or more times, and it would appear at once, when we consider the anatomical relations of the parts, and the course of the discharge, that there would be less danger of fecal contents being carried into the vagina by the obstetrician in the dorsal position than in the side position.



A point that was not brought out by the writer, and one which I deem of vital interest to the mother, is the manner of inserting the finger in making a digital examination. The finger of the obstetrician should be introduced from above and along the anterior wall of the vagina, in order to avoid carrying any fecal discharge that may have escaped unnoticed.

Concerning the mode of handling delayed labor caused by a rigid os, it has been my custom to inject morphine hypodermically and apply ung. belladonnæ to the os, or inject hypodermically morphine and atropine. The morphine will allay pains and produces sleep, and the atropine will aid in softening and dilating the os. In twenty years of practice I have seen but two cases that needed any other measures, and each of these yielded admirably to chloroform anesthesia and forceful dilatation with the index and middle fingers. One of these cases occurred in a hospital in Kansas City. She was a woman thirty-nine years old and a primipara, and was in labor some hours before I was called. On my first examination I found a hard, rigid os, parchment-like, as hard as a piece of gristle. The amniotic fluid had not escaped, and I left her in charge of a nurse for some hours. In about eight to twelve hours I made a second visit, and on examination found the conditions practically unchanged. I ordered a hypodermic injection of morphine and atropine, and waiting for about ten hours with but little effect, I decided to give an anesthetic and effect a dilatation of the os with my fingers. The child was delivered in about forty-eight hours from the commencement of labor without any lacerations, save the very minutest. I have great confidence in the use of morphine and atropine and some anesthetic in prolonged labor due to a rigid os.

I would caution the young obstetrician not to be too anxious about dividing the os in those cases of delayed labor above referred to until the remedies I have mentioned have been given a fair trial.

The immediate repair of the parturient canal after delivery may be effected with some degree of success when conditions are ideal and with proper assistance, but I cannot agree with the writer of the paper that it should be done in all places and under all circumstances. In fact in private practice the profession will be forced to agree with me that a large percentage of our confinements are in humble homes in cities and country, very unsanitary and poorly lighted in which to do work of this kind at night; besides, many times the obstetrician has no one to assist him save a neighboring woman untrained in the science of nursing; moreover the parts are often much swollen and the mucous membrane of the vagina somewhat denuded, so that under the above conditions it has been impossible for me to ascertain the margins of the wound. I have tried it many times with unskilled help, and in only one or two instances have my efforts been partially successful, while in many it formed a nidus for infection, which subjected the patient to extra suffering and danger, and was relieved only by the removal of the stitches and cleansing the wound.

Concerning the time of danger to the parturient canal, it has been my practice when the head is passing through to anesthetise the patient unless there is something to contraindicate an anesthetic. I believe a rapid delivery may also be considerably delayed by

placing the index and middle fingers, not against the outer parts, but against the head, which is partly protruding. I do not believe in pressing the perineum against the head; in fact, I have not done this for years.

Aside from these few points I most heartily agree with all that has been stated in the paper.

Dr. B. A. Bobb (Mitchell): While I have eliminated the obstetrical practice for two years, up to that time I had been using as an anesthetic H. M. C. tablets and used them on some forty cases. I do not want to provoke any discussion here on that line at all, but simply say they have been absolutely successful in my hands. I had no difficulty whatever. While I had some blue babies I also had some blue babies before.

Dr. S. A. Brown (Sioux Falls): I want to say something—I always feel when any subject comes up I should say something—about the time when it is right to cease the anesthetic and the time when it is dangerous to continue it. When the head is born, in my opinion, is the time when the anesthetic should be absolutely discontinued. A number of cases that I have seen in my practice, in the practice of years, and from what they have taught me—it is a thing you see very little of in text-books,—it is an absolute fact, I am sure from frequent observation, that an anesthetic, particularly chloroform, administered after the child is born, is an exceedingly dangerous proposition. Very often patients die at that time, and they are recorded as dying from shock, but, in my opinion, many cases recorded as dying from shock die from the effect of chloroform administered for slight operations after the child is born. It is true that it is a very disagreeable thing to proceed to repair the lacerations of the vagina and the perineum without an anesthetic, after you have been giving it to a woman for hours, but that it is a dangerous procedure will sustain the physician in his resolution not to give way to the patient's entreaties.

Dr. F. M. Crain (Redfield): I have had an unusually large obstetrical practice, and I always resort to chloroform in cases where the patients will permit. Sometimes we get hold of a patient, especially foreigners, that do not like to take it, and if they are willing to suffer I am willing to let them suffer, but I always advise the use of chloroform, especially in the second stage of labor, and in the first stage when dilatation is taking place. If the first stage of labor is slow, and if there is a very rigid os, it assists in relaxation, and by mechanical pressure of the fingers we are able to effect dilatation much more rapidly and with less danger of laceration of the cervix. I do not see any use of continuing the anesthetic after the child's head is born, because usually, with the first or second pain after the head is born we are able to deliver the child. I invariably repair the perineum just as soon as we can get at it after the child is born. You can do it then oftentimes without very much pain to the patient. The parts are benumbed, and in fact I do not ever remember using an anesthetic, within half or three-quarters of an hour after the child was born, for repairing the lacerations of the perineum. They sometimes, of course, complain of pain, but it is not so severe but what they can stand it, and I think it is much safer than to continue the anesthetic, for fear it might provoke a post-partum hemorrhage, one of the dangers we have to contend with in the use of chloro-

form, especially after the uterus has been emptied. After the expulsion of the contents of the placenta I give a fair-sized dose of ergot. I have been very successful with this line of treatment, and I can recall but two cases of post-partum hemorrhage that gave me any apprehension whatever.

The Essayist: In regard to the remarks by Dr. Doyle: As far as the anesthetic is concerned, I never attempt to put on high forceps, or even low forceps, without chloroform.

Morphine and atropine I have never used for the reason that my preceptor claimed to have obtained bad results from this combination and had always used chloral. I have used chloral, and I find the administration of it, in pretty good-sized doses (maximum of fifty or sixty grains in one hour in divided doses) is pretty well borne by women in this condition. Under it, the cervix will almost always soften down and relax, and the patient will quiet down with several hours' rest and often sleep, waking up refreshed, with the soft and relaxed cervix and good pains.

In regard to putting on forceps in the side position: I think the doctor must have misunderstood my paper because that was my only exception to the side position. I always put on high forceps in the dorsal position, and keep that position until the head or presenting part distends the vulva. Then I remove the forceps, roll the patient to the side position, and deliver the head by manipulation to save, if possible, the perineum. If it is ruptured before the forceps is removed, there is nothing to be gained by changing the position.

In regard to the advantages of the side over the dorsal position: I think a great deal depends on one's training. I received my training in Boston under Richardson and Reynolds, and was interne at St. Mary's Lying-in Hospital in Dorchester. In these

places the side position was used. It was the position I was trained in. Becoming accustomed to it, I have continued to use it ever since.

In regard to immediate repair even in poor homes: I will say that in New Haven, where I practised before coming to Sioux Falls, I had quite a large practice among the Italian population of that city, and I do not believe you can go into any poorer or dirtier houses than some of those, but even here I could always find a pan which I could scrub clean. All the rest of the appliances needed ought to be found in any physician's bag. They consist of a curved needle of good size, some good strong sterile catgut, No. 2 or No. 3, a needle-holder, hemostatic forceps, and scissors. A little boiled water finishes the outfit. Another thing to think of is, that women become, to a certain degree, immune to the germs found in their own dirty surroundings.

I always give a lysol douche on the start and finish with one, and I do not remember a single case where I got infection.

I never give chloroform in normal cases until the latter part of the second stage, where I want to delay the head to save the perineum. I know a great many women call for it, and cry for it, but I will not give it before. I have never had any experience with the H. M. C. tablets. The medical journals at the present time are crying about blue babies where these are used. Perhaps they are due to the tablets and perhaps not, I do not know.

If I should have a case demanding high forceps, I should have an assistant to give the chloroform. It is given, the forceps applied, and the child taken, and I have never yet seen any bad results from continuing the anesthetic long enough to suture the perineum. It takes but fifteen or twenty minutes if you are ready to do it.

## ACUTE ANTERIOR POLIOMYELITIS\*

By H. G. FRANZEN, M. D.

MINNEAPOLIS

Patient, boy 3 years old, German, second child in the family.

Parental history, negative.

Obstetrical history: The child was delivered by instrument, but without accident or injury. Has been well ever since. He is well-developed, both physically and mentally.

For three days previous to this attack the older brother had suffered from peculiar febrile attacks associated with chills, sore throat, nausea, and vomiting, but no positive diagnosis could be made and he recovered without further developments.

One evening this patient stumbled and fell on

the floor. He was unable to get up alone, and when helped it was found that he could not move one limb. The case was reported to me, and suspecting the trouble I ordered the child put to bed. He was given a calomel purge, and the limb was wrapped up in warm flannels and kept that way until the next day, when I could see him.

On examination I discovered a flaccid paralysis in the right limb and foot. Anesthesia was present below the knee and in the foot. Above the knee anesthesia was discovered at several places over the flexor muscles, but not elsewhere. The cremasteric reflex was markedly increased.

The temperature was at this time 99.6°, but soon reached the normal. Examination with the

\*A clinic, presented at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



electric current revealed no response to the Faradic current, and but slight response to galvanism below the knee. No reaction was obtained in the muscles of the foot. Above the knee all the muscles responded slightly to the Faradic current. The muscles were flabby and the skin cold and clammy.

We now called in consultation the physician who had delivered the child. He suspected scurvy, but as confirmation signs and symptoms were absent we concluded to follow out the system of treatment of acute poliomyelitis, which diagnosis seemed to us positive.

*Treatment.*—Gave a daily calomel purge for four days, followed by increased doses of nuxvomica and a highly nutritious but easily assimilated diet. The paralyzed limb was massaged thoroughly for one-half hour twice a day, then wrapped in warm flannels, and the child put to bed. At the end of one week sensation had returned so that the child noticed the pricking of a pin at the sole of the foot.

Electric treatments were now commenced and continued daily for sixteen days. Sensation and anesthesia rapidly returned, and at the above time the child could move the limb quite freely. It was interesting to observe that anesthesia disappeared shortly after motion had returned in the toes. The skin remained cold. There was marked wasting of the anterior tibial muscle. The child was now put on phosphorus and arsenic, in small but increasing doses, and the nuxvomica was discontinued. The temperature showed irregular fluctuation, but most of the time remained about one degree above normal.

At the end of six weeks from the onset of the paralysis the electricity was discontinued, but massage and passive exercise were continued. The child could now walk when allowed sufficient support to balance himself. He was turned over to an orthopedic surgeon, who supplied a brace to prevent deformity of the knee. In this way he gets about very well and improves in every way.

The unusual features of this case were the perfect anesthesia; the absence of previous fever; and the persistent coldness of the skin.

I have treated sixteen cases of this malady, but in none have the above points been so prominent.

#### CONCLUSION

I am glad to know that Dr. Riggs agrees with me that electricity should not be used in the early stages, as I have noted positive harm from the same in acute inflammation. In later stages the high-frequency current may be used with benefit.

#### DISCUSSION

Dr. Eugene Riggs (St. Paul): The disturbance is not an unusual thing; in fact, in thousands of cases reported it is quite common to have such an association. There is no question but what poliomyelitis is due to a microbic organism, and often it is limited simply to the motor cell, and the symptoms are purely motor symptoms. In the neuroma you will have such disturbances. Our information is rather extensive and is not limited entirely to the literature.

The types of poliomyelitis can be divided into two classes: one is due to a microorganism, and the other is undoubtedly thrombotic. Poliomyelitis is, without doubt, infectious. Starr read a most interesting paper before the American Medical Association, in which he described one instance where children had acquired the trouble from a family who had moved out of the house. Another family had moved in, and shortly after moving into the house the children were taken with this disease. He seemed to think that where the disease existed the room should be disinfected, just as after any other ordinary contagious disease.

Now as to treatment: Of course the treatment is purely—I hardly know what to say—palliative. There should be no electricity used for a week or two, in my judgment, until after the inflammation has had abundant time to subside. The Faradic current is of absolutely no use, but massage should be used and mechanical treatment should be used, because nutrition is dependent on stimulation coming from the motor centers. This mechanical stimulation is a sort of a chemical stimulus from without, which keeps up a certain formation of ganglionic cell-tubes. I have felt this, that the attitude of the profession toward the treatment of poliomyelitis is mistaken, not as to measures and methods used, but as to the persistence in the use of those methods, for this reason, that I believe many times injury is done and deterioration is effected by overstimulation. However, stimulation should be kept up, either by massage, electricity, or voluntary motion, but the persistent use of these various methods, I believe, many times tends to delay cure or relief.

Dr. A. G. Schulze (Carlton): There is at the present time in our town an epidemic of what seems to be poliomyelitis. I have not had any cases in my own practice, but I have seen quite a number of them. When I saw Dr. Blacklock last he had handled 45 or 50 cases. Dr. Blacklock is now confined to his home and bed, and has been for several days. In the first place he was satisfied it was poliomyelitis, but when some other cases broke out the cerebral symptoms were so prominent that he did not know what he had. After consultation with bacteriologists at Duluth and Minneapolis he found it was poliomyelitis. He had 50 cases in five days.

The trouble begins with pain in the back. The patient feels extremely tired. When Dr. Blacklock had his first patient he complained of pain between the shoulder-blades, in the back, and had a tingling sensation in the muscles of the arm. His temperature was subnormal. The case which he last had was a boy, fifteen years old, whose temperature was only 101° when he saw him last, but his pulse and temperature were never such as to give anyone an unfavorable prognosis. There was a blister on the tongue, and sordes, and there were specks in the eye. Another point of



interest is that every one of these cases has sore-throat, and in some of these cases of sore-throat there was nothing more than dryness, and in other cases he had marked symptoms of tonsillitis.

I understand that Dr. Blacklock is writing up these cases, and they will appear later on. The doctor was not able to be present at the time. When I last saw the doctor he said he would take cultures of all the cured cases.

The Essayist: I appreciate very much what Dr. Riggs said, what he said about massage and also what he said about the use of electricity. I have seen sixteen cases of poliomyelitis. This is the fifth one I have had under my care and treatment, and in each case I came to believe, more and more, that it is a symptomatic case and must be treated accordingly.

## SPINA BIFIDA\*

By A. E. HEDBACK, M. D.

MINNEAPOLIS

Spina bifida is not of such frequent occurrence that individual cases might not be of interest. According to Bryant, the rate of mortality after operation in the type known as *meningocele* is twenty to twenty-six per cent, and he states that the operative outcome in *meningomyelocele* is so unfavorable that many authorities discourage the attempt.

Knowing as we do how frequently hydrocephalus develops in these cases when the primary operation is a success, I thought you might like to see this case, now nearly three years after operation.

This little patient was seen by me shortly after birth. The mother had been attended by a midwife who recognized the deformity and exercised great care to prevent rupture of the sac.

The tumor was elastic, the size of an orange, and covered by a delicate red membrane over its greater portion, merging into the integument at its nearly sessile attachment in the lower lumbar region.

The tumor was protected with abundant cotton, and it was hoped that the operation might be postponed and the shock from anesthesia thereby lessened. At the end of three weeks, however, it became apparent that operation could be delayed no longer, as the tension was increasing and rupture seemed imminent.

In operating, I made a transverse incision and closed the wound with the aid of the fasciæ and muscles of the back to make the covering stronger. Ether was used as the anesthetic. Pronounced shock appeared at the conclusion of the operation. The little one became cyanotic, and respiration ceased. The assisting interne pronounced the patient dead. Stimulants, in the form of strychnia and saline solution, were ad-

ministered while the child was held over a hot radiator. There was improvement, but the shock persisted, and hypodermics of strychnia were repeated for several days.

The patient has been a trifle backward in learning to talk, and for a long time the lower limbs were dragged helplessly in crawling on the floor. He now speaks quite a little and walks about, as you can see, without assistance. There still remains a little uncertainty in gait, and he stumbles more easily than the average child of his age, but progressive improvement is noticeable.

It is sometimes difficult to make a differential diagnosis in these cases. My diagnosis of *meningomyelocele* in this case was made on the tumor's location, its sessile, rather than pedunculated, attachment, the convex surface not covered by integument, and the impairment of the motor function of the lower limbs.

### DISCUSSION

Dr. C. H. Mayo (Rochester): I congratulate the doctor on securing such a result in the case of *meningitis*. I look upon these cases as if the disease were a sack. It is a sack which contains the fluid, and the removal of the sack is like the removal of the hernial sack, which is below that region. We may have some fibres of the cord attached to the sack so they may become injured, or the injury may be done during the operation. Where the operation is done in case of meningeal protrusion, we only look upon the sack as containing the fluid, and there is a loss of equilibrium between the production and the absorption of the spinal fluid. With the operation a good many do not die of spinal death, but of a cerebral death.

I have operated on two or three of the cases described. So we have all types of this condition and we operate on them because they are going to die, and then we have the prospect that the case may die after operation.

I again want to congratulate the doctor on getting such very good results in the case he described.

Dr. P. O'Hair (Waverly): In connection with the paper just read by Dr. Hedback on spina bifida, would say, I was called to see a Mrs. B. about five months

\*A clinic, presented at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

ago, in case of confinement. I found her in severe labor pains, and had scarcely time to make an examination. On examination I found what I supposed to be the os, which seemed to be irregularly lacerated. On further examination I found it was an opening about three inches long, in the scalp of the child, over the parietal bone or where the bone should have been. It seemed to be disconnected and pushed to one side. In about five minutes a male child was delivered, after which I made more thorough examination and found an opening extending into the internal meninges of the brain. I could see the dark blue of the membrane. The scalp seemed very loose over the whole head, much larger than necessary to cover the skull, which indicated a large tumor filled with fluid. Evidently the membrane was not covered with the scalp or it would not have ruptured. Toward the occiput, the scalp lay in folds, and I could see in the edges of the irregular wound, shreds of membrane which I trimmed away,

cleansing the wound as best I could. I did not vivify the edges of the wound, but sewed loosely with continuous suture, leaving plenty of room for drainage. I used antiseptic dressings, bandaging firmly, beginning at the occipital region, working toward the opening.

On my next visit I found the bandage rather loose, also the sack on the lower part of the head with considerable fluid, which I worked out. The discharge was very offensive. I bandaged more tightly in order to have the scalp adhere to the skull, which it gradually did. The fetid fluid oozed for several days, and finally the wound healed by granulation.

I saw the child a few weeks ago, and there was not much of a scar; the head was well formed, and the child looked bright and healthy. Father and mother have ordinary health. This was the third child. One of the children has shown some enlargement of glands, said to be tubercular.

## A COMMON NERVOUS DISEASE\*

BY HALDOR SNEVE, M. D.

ST. PAUL

This case is a trouble I think you will all recognize, although the patient is almost well. In contradistinction to the case Dr. Abbott has just shown here, of Huntington's chorea, we have a case of ordinary or Sydenham's chorea.

Epidemic chorea we now know to be an imitative hysterical affection. Electric chorea and paramyoclonus multiplex need little consideration in connection with this case; the first is a serious organic trouble accompanied by muscular wasting and palsy, and the latter has a precarious nosological position. Senile chorea is pretty closely related to Huntington's and is probably based on a degenerative disease of the central nervous system.

Habit-spasm and the tics of the French are frequently confused with the true chorea of Sydenham, and theories concerning their reflex origin have led to our numerous operations on the foreskin, and the throat, and to the fitting of glasses. The association of acute chorea, articular rheumatism, and endocarditis has long been well known. Dr. Thayer of Johns Hopkins, in analyzing the records of his chorea with reference to cardiovascular disease, found that cardiac murmurs were present in 25.4 per cent of dispensary cases and in over 50 per cent of hospital cases, and that rheumatism was present in 21.6 per cent. In 110 choreas treated in the hospital

wards fever was present in almost every instance. He says that in an otherwise uncomplicated case of chorea the presence of fever is, in a large proportion of cases, evidence of endocarditis.

In nearly all the older post-mortems of chorea, changes have been found in the brain which interpreted in the light of present day knowledge meant an infection. Poynton of England has been working on the bacteriology of rheumatic fever and may justly be considered our highest authority. He and Holmes record the demonstration of the diplococcus rheumaticus in the brain in three cases of chorea, one of which was a chorea gravidarum where the diplococci were demonstrated also in the endocardial lesions. The point I wish to make is then that *chorea is rheumatism of the cerebrospinal joint*, if you will allow such an inaccurate designation for the cerebrospinal cavity. In twenty-one cases of chorea in my own practice there has been only one case in which rheumatism or endocarditis was not present, and in that case a sister had inflammatory rheumatism at the time of the development of the chorea.

Just as we spent years in trying to dodge the obvious connection between syphilis and tabes we have been trying to shut our eyes to the patent fact that in chorea we are dealing with a cerebrospinal infection by the diplococcus rheumaticus.

What is the practical application of this conception? We are to treat chorea at first, if there

\*A clinic, presented at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

be fever, by wet packs, elimination through the bowels, rest in bed, ice-bags for heart and head, and salicylates. When the fever disappears we will use our daily packs until the patient has improved sufficiently to be taken to the bath-tub, and a cold spinal douche, lasting from one to three minutes at first, with the patient sitting with the feet in warm water, is administered for the purpose of powerful stimulation to the cerebro-spinal circulation. No arsenic is used in any form because, in my opinion, it does no good whatever, and patients are not exposed to the danger of immediate or remote poisoning.

The plan outlined above will give you the most gratifying results.

#### DISCUSSION

Dr. O. R. Bryant (Minneapolis): I would like to ask the doctor what course he would pursue in the case of a girl having Sydenham's chorea regarding her attendance at school.

Dr. Sneve: If she has Sydenham's chorea I would take her out of school. I would take her out anyway if she had chorea. Such cases ought to be kept out. They ought to be kept quiet, kept away from strangers—just kept quiet.

Dr. L. M. Roberts (Little Falls): I would like to ask the doctor whether it is a fact that in Sydenham's chorea 90 per cent of the cases get entrance through the tonsils, and if that particular attack is successfully treated and the tonsils are then removed if the patient will escape further attacks, or if other germs will at once enter the system, and is it too late then to prevent recrudescence?

Dr. Sneve: The experience was too small and the work has been of too short duration to give any definite answer to the question of the removal of the tonsils. We are figuring with streptococci, and we are figuring with diplococci. Diplococcic germs have been found by a number of other observers in the joints. If a patient has those germs in the joints and in the spine I do not think that the removal will have any other effect, because there are germs still present in the throat, in the nose, and in the mouth.

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## BOOK NOTICES

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DISEASES OF THE NERVOUS SYSTEM FOR THE GENERAL PRACTITIONER AND STUDENT. By Alfred Gordon, A. M., M. D., Jefferson Medical College, Philadelphia. P. Blakiston's Son Company.

In presenting this book to the public, and the general practitioner and student in particular, Dr. Gordon has departed from the general nomenclature on nervous diseases and has written a plain and practical account of the various diseases of the nervous system. In doing this

he has overcome one of the difficulties which the average student encounters, and has given us a work that is readable and very easy to comprehend. He has also associated, in his description of nervous diseases, the pathology to explain the disturbed functions and the anatomical substratum of the morbid phenomenon. He avoids superfluous, particularly technical and debatable, points of pathology, and presents those that are most essential. The author also discusses the relationship between symptoms and pathological changes. Particular attention is paid to two different diagnoses, a very important element in the consideration of nervous diseases.

He varies a little in his discussion of the etiology of disease. Sometimes it appears before symptomatology, and sometimes immediately before treatment. These are arranged according to the importance etiology plays in certain diseases, or according to the amount of knowledge we possess of the causative factors in various diseases.

Considerable space has been devoted to treatment, and only the most useful and well-known devices, appliances, opiates, and other drugs are described. The usual chapters on methods of examination, anatomy of the brain and cord, and malformations of the nervous system have been added.

The book, fortunately, is not too large nor too voluminous. It contains 475 pages and 136 illustrations. The general style is pleasing, and the publishers have, with great pains, produced a well-printed volume.

Dr. Gordon's reputation as a neurologist is unquestioned where he is known, and the book can safely be recommended to general practitioners and students who desire a concise yet sufficiently comprehensive work on the subject.

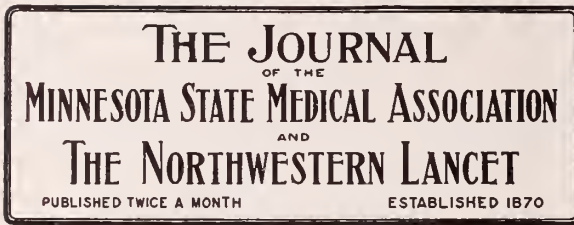
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## TRANSFUSION OF BLOOD FOR PERNICIOUS ANEMIA

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Robert Lucy of Guelph, Ont., reports the case of a woman who was operated on for abscess of the kidney successfully. Nine months later she became pregnant and developed pernicious anemia. After the birth of an eight-months child her condition became so bad that blood was transfused from her husband's arm. The good results were immediate, and the patient is now in perfect health.—Medical Record.





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## THE COURSE OF THE SENSORY IMPULSES IN THE NERVOUS SYSTEM

During recent years there has been much discussion concerning the course of the sensory impulses in the nervous system, and a considerable literature has grown up around the subject. For a long time, it was believed that different forms of sensation were conveyed along the same fiber tracts and that the different qualities were due to different effects on the patient's mind. The occurrence of numerous cases, however, where there has been a distinct dissociation of sensation, has gradually modified the older view, and it is now coming to be believed that different qualities of sensation are conveyed by different sets of fibers.

In the February number of the Journal of Nervous and Mental Disease, Dr. Camp contributes an excellent article on this subject, giving a résumé of the various findings and a record of the clinical and pathological studies in his own cases. His conclusions, in brief, are as follows:

The fibers conveying the sense of pain ascend in the gray matter of the posterior horn a variable distance, ranging from two to eight segments, after which they cross to the opposite side and ascend in the column of Gowers. Fibers conveying the sensation of heat and cold enter the cord at the same point, and follow much the

same course, although entirely separate from the fibers conveying the sensation of pain. This is shown by the fact that one form of sensation may be lost while the other is not, and that the return of the two forms, when lost, does not coincide in time. Certain observations also tend to support the view that sensation for cold is carried by a different set of fibers from that which conveys the sensation of warmth. Tactile sensation is carried upward in the posterior column by fibers which do not decussate until they have traveled a considerable distance. Sense of position comes from the joints, and sense of motion from the muscles; and each form aids in the recognition of the other sensation. The fibers pass upward, at first, in the gray matter, and, later, in the cerebellar tract of the same side. This statement is in direct contravention of the view, still widely held, that the loss of sensation of position in tabes is due to the degeneration in the posterior columns.

### DR. GEORGE RANDOLPH PATTON

Dr. George Randolph Patton died at his home in Lake City, Minn., March 23, 1909.

Dr. Patton was a scientific physician, a successful business man, and a genial gentleman. In both his writings and in his personal touch with men, he was always helpful. He began his very successful career in Cincinnati as a young medical man with apparently two motives, which we think worthy of adoption by every young medical practitioner: first, be helpful; second, collect what is due you from men able to pay for the services rendered. That he was strongly actuated by the first motive, is shown by the fact that his practice in Cincinnati was, for some years, and of his own choice, among the poorest classes, where even a dollar fee was not received every day.

He began early to do scientific work and to contribute to medical journals in order to fit himself for his profession. In later years he looked back upon this course as the best possible means of holding himself to the hard task of study under adverse circumstances.

Dr. W. M. Wilson, of Lake City, has kindly furnished us the following details of Dr. Patton's life:

Dr. Patton was born in Allenville, Mifflin County, Penn., August 16, 1834, and removed with his parents to Cincinnati, Ohio, in 1845. He graduated from the Miami Medical College, Cincinnati, in 1855. The degree of M. D. *ad eundem* was conferred upon him by the Medical College of Ohio in 1858, and the degree of M. A. by the Miami University in 1857.

He practiced his profession in Cincinnati for a number of years, and achieved distinction along various professional and scientific lines.

In 1872, largely on account of his health, Dr. Patton removed to Lake City, and for many years was in active practice, and was justly esteemed as a very advanced and eminent member of the medical profession in this locality. Upon his removal to Lake City, he at once identified himself with the Wabasha County Medical Society, and for many years was a zealous and efficient member. He belonged also to a number of other medical organizations, was a frequent writer on medical subjects, had held many important offices in societies, had invented several surgical appliances, and had been a teacher in medical schools and hospitals (see "History of Wabasha County," 1884). Some of the later articles he produced, "The Mind as a Dynamic Force," "Does the Practice of Medicine Pay?" and a brochure of "Original Articles" have been published as reprints from THE NORTHWESTERN LANCET.

During the past few years, on account of age, family cares, and serious impairment of his hearing, Dr. Patton had retired from actual practice and from his membership in medical societies, being unable to actively participate in their affairs.

He had been absent from Lake City for a few weeks for the benefit of his health in the East and South, visiting his old haunts in Cincinnati, and only a few days after his arrival home he succumbed to a complication of ailments, aggravated by an attack of the grip.

### GRIEVANCES, AND HOW TO TREAT THEM

Every editor has to deal with grievances, real and imaginary; and sometimes they give him no little concern, and so most editors have come to study them and to adopt a theory for their treatment. But the editor must first catch the grievance before he can treat it. Here is a man, for instance, with a grievance which he nurses, magnifying it from day to day until it makes him actually miserable and—shall we say it?—actually disagreeable. Here is another man with a grievance. He is a manly man, and he wavers between making his grievance known and completely dismissing it from his mind, and doing so without the least trace of malice toward the offender.

We take it that almost every man finds himself, very frequently, in one of these two classes,

and it is quite apparent that even the man in the second class has, at times, no small problem on his hands. He is manly, and wants to do what is right, regardless of consequences. He may think that the mere mention of his grievance will make him appear small, while not to mention it forces upon him a judgment that may be unjust, and to harbor such a judgment, or even the suspicion of such a judgment, makes a noble soul uncomfortable.

Now, speaking from the standpoint of an editor, we want to say emphatically that a grievance, real or imaginary, either nursed or dismissed, though the latter be "without prejudice," if against an editor, does almost an injustice; for we assume that there are many manly editors. Such men write with a purpose, and this purpose is often to grieve, not the innocent, but the offender; and, therefore, even to know that offenders have been hurt helps on the editor's work, while not to have an opportunity to clear up some obscure or general statement that has been misunderstood, hinders his work.

But we have gone somewhat astray of our purpose in writing upon this subject. In our last issue, we made known one of *our* grievances, and we attempted to do it in no uncertain words. This editorial brought forth much good fruit, but it also called out a grievance, not wholly an imaginary one, but a real one, with, however, a wrong application. One of the manly class writes us—and he does so, as he states, because of that editorial—and he asserts that we have been remiss in our duty, inasmuch as we omitted his remarks from the discussion of a paper, thus making the writer of the paper answer, in his closing discussion, questions not asked by others in the course of the discussion. But, unfortunately, our manly correspondent assumes that we intentionally omitted his discussion, not having sent him the stenographer's report of the same, and, even worse, he asserts that perhaps other physicians have been treated likewise. Of course, he doesn't mean that, for he is too manly to say such a thing; but how easily a sting slips into our words and extracts a part of the sweetness that the written word should always carry, except when meant as proper and severe reproof based upon irrefutable evidence of its justice.

And all this leads us to an explanation which perhaps is rather a private than a public matter. The truth compels us to say that the stenographic report of the last meeting of the Minnesota State Association was much inferior to work hitherto done by the same reporter for the Association.



As a result no small part of the discussion was attributed to the wrong speakers, and when we cannot find the right names the discussion must of course be omitted. This was the cause of the grievance to which we have referred, and, fortunately, our duplicate copy of the discussion will show our friend that we are not making to him an *imaginary* excuse.

Now, a word for the stenographer and his ilk. A stenographer cannot be expected to know the names of all the men who take part in a convention; and where there are many speakers in a discussion, especially in a rapid-fire one, some names will be missed and some mistaken. A proper observance of the parliamentary rule requiring each speaker to be recognized by the chair before he begins to speak would avoid this trouble; it would add to the interest and value of the discussion by making known to the audience the names of the speakers; and it might, on occasion, add somewhat to the dignity of the debate.

If our readers will give this homily a broader application than its specific purpose, it may not seem quite so unnecessary of utterance.

### COMMON CARRIERS OF INFECTION

The three most common channels by which communicable diseases are carried are foods, flies, and fingers; and yet no inspection or restrictions are demanded of those who may easily spread diseases. Barbers, plumbers, and blacksmiths are examined by dignified boards appointed by the Governor, and not infrequently the applicant appears in a dress suit for the alleged trying ordeal.

Cooks and vendors of foods are permitted to conduct themselves as they please, and no one dares question the august authorities. An attempt was made two years ago to provide for the inspection of hotels, with the idea in mind that irregularities in construction, faulty sanitary surroundings, and the conduct of the kitchen and sleeping-rooms might be the subject of inquiry. The object failed because no adequate provision was made to pay the inspector. The bill is a very necessary one and should be upheld without question.

Those of us who are sometimes obliged to remain over night in a badly ventilated hotel room and who cannot avoid seeing the untidiness of the office and dining-room, speculate on the possibilities of the kitchen and the serving of foods.

One can easily imagine an untidy and an unclean cook handling foods of questionable quality

and freshness, and if the imagination is permitted to wander far enough it is not difficult to discover disease-states that should transform the cook into a laborer on the sewer. These possibilities are unpleasant to think about, but they can easily be demonstrated. The preparation of proper foods by clean methods and by healthy hands and the absence of flies would be a valuable advertisement for any hotel. This formula may be applied to many homes and eating-places.

As long as the people are indifferent about their food-stuffs and the people who handle it nothing will be done, but as soon as some one is given authority to inquire into the habits of the kitchen we shall feel that a great step has been taken in the prevention of many unlooked-for diseases.

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## REPORTS OF SOCIETIES

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### MINNESOTA ACADEMY OF MEDICINE

The Academy met at the Minnesota Club, St. Paul, Wednesday, March 3d. Dinner was served at 7 p. m., and the meeting was called to order at 8:15 by the president, Dr. J. E. Moore, with 32 members and two guests present.

The Executive Committee reported favorably on the thesis of Dr. Frank Burch, and the chair declared him elected to active membership in the Academy.

Dr. Arnold Schwyzer reported a case, and showed the specimen, of a large stone in the appendix with a common pin in the stone. The head of the pin was toward the proximal end of the appendix and protruded a little from the stone. Evidently the pin was the nucleus around which the concretion had formed.

Dr. J. E. Moore referred to a case operated on this morning in which three enteroliths had been formed in the appendix, one a very large one. The case had been unique in that there had been no pronounced attacks of appendicitis. There was, however, a marked tenderness over the abdomen, and there was persistent vomiting at times, but the whole was so masked by an extreme hysterical state that the doctor was unable to determine positively the real condition. Relying, however, upon the statements of the family physician, who had observed the case for a long time, he proceeded to operate and found the above condition.

Dr. A. W. Abbott reported a case, and exhibited the specimen, with a soft fecal concre-



tion in the appendix. Also a very much enlarged kidney with cavities and concretions.

Dr. Alex R. Colvin reported a case of "Infected Fracture of the Base of the Skull."

Dr. W. R. Ramsey made a case-report on "Buttermilk and Sugar as Diet in Typhoid Fever."

In discussing the subject Dr. Christison said that he is getting to a point where he can believe almost anything of buttermilk; not necessarily the commercial type, however, for he is in the habit of using the artificially acidulated milk. Ill nourished children, and those with intestinal disorders do certainly improve under this method. He cited the case of a group of factory women in a New York clinic, who were living on bread and tea principally and in whom marked nervous disorders were prevalent. Put upon a buttermilk diet, their improvement was marvelous.

Dr. Tomlinson stated that in adults they also get fine results from buttermilk feeding. In his institution they get it directly from the creamery where they know it is reliable.

Dr. Gilfillan thinks that we are a good deal mixed as to the real benefits derived from this kind of feeding. Neither the absence of fat nor the presence of the acid bacillus accounts for the benefits of buttermilk feeding in typhoid. He is of the opinion that we are too closely tied to milk feeding anyway, and should give such articles as gelatine and raw or partly cooked eggs, meat juice, etc.

Dr. Shelden referred to a recent article by Schaeffer, in which the exact amount of food required is figured out to a nicety. He believes this to be the right plan to follow.

Dr. Ramsey, in closing, urged the careful selection and study of the cases, and cautioned against the indiscriminate use of buttermilk, for otherwise it will fail in some cases, for obvious reasons.

Dr. John M. Armstrong, of St. Paul, then read his inaugural thesis entitled "The Diagnosis of Smallpox." This paper will be published in an eastern journal. The subject was discussed by Drs. Dennis, Law, Renz, Rothrock, Ramsey, Gilfillan, and by Dr. Armstrong, in closing.

ARTHUR W. DUNNING, M. D., Secretary.

#### THE WATERTOWN (S. D.) DISTRICT SOCIETY

The Society met in Watertown on March 9th. Dr. R. M. Burlingame took up the subject of "Parasitic Insects," which was followed by a

general quiz and discussion. The subject of "Tape Worms and Fungi" was discussed by the Society.

We meet the second Tuesday of each month to pursue a study-course adopted at the suggestion of Dr. McCormack. We feel as if it would be far better to meet oftener, but at present it seems impracticable. We are pleased with the change and think our meetings will be more pleasant and profitable.

J. B. VAUGHN, M. D., Secretary.

#### SCOTT-CARVER COUNTY SOCIETY

The Society met at Chaska on March 4th.

Dr. Andrews' resolution was discussed, but no action was taken.

The following officers were elected: President, Dr. H. A. Schneider, Jordan; secretary, Dr. H. W. Reiter, Shakopee; delegate, Dr. James McKeon, Montgomery.

H. W. REITER, M. D. Secretary.

#### LYON-LINCOLN COUNTY SOCIETY

The Society met at Tracy on February 16th.

As the roads were very bad and all trains were delayed, there was no time for the regular program, and no papers were read.

Officers were elected as follows: President, Dr. A. J. Cox, Tyler; vice-president, Dr. Theo. Thordarson, Minneota; secretary, Dr. H. M. Workman, Tracy; treasurer, Dr. C. E. Persons, Marshall; delegate, Dr. C. E. Persons, Marshall.

H. M. WORKMAN, M. D., Secretary.

#### MITCHELL (S. D.) DISTRICT SOCIETY

The Society met in Mitchell on March 1st, with 25 members present.

Papers were read as follows:

President's Address, Dr. E. N. Wagar; "Plant Toxins, with Special Reference to Their Relations to Hay-Fever, Animal Toxin, and Antitoxine," Dr. E. F. Reamer; "Tic Doloureux," Dr. Frederick Treon; "The Prostate," Dr. F. W. Freyberg; "Vesical Calculi," Dr. A. J. Howard.

A free discussion followed each paper.

A luncheon was enjoyed at the close of the program.

W. R. BALL, M. D., Secretary.

#### HENNEPIN COUNTY SOCIETY

The Society held its monthly meeting on March 1st, Dr. J. D. Simpson, the President, in the chair, and 55 members present.

Dr. C. H. Bradley reported for the Executive Committee, as follows:

In order to do away with the tuberculin test

and the mallein test for glanders, we sent a letter to the House of Representatives advising the use of tuberculin and mallein only as a diagnostic aid.

The committee reported favorably on the medical defense law.

Dr. J. H. Stuart reported as follows regarding a special study-course for the Society:

The committee would like to have the whole Society feel some of the interest and earnestness the committee itself feels in the work of study, and they would like to have the membership take it up in their minds and amongst themselves and come to a determination to make it go. A program for the study club has been mapped out as follows: (See our issue of March 15.)

Dr. R. J. Hill moved that the Society indorse the purpose of the State Medical Association to organize a defense union. Motion carried.

Dr. R. J. Hill reported favorably for the Censors, on the following for membership: Drs. W. E. Tryon, C. J. Plonske, W. G. Brede, Albert C. Potter, George F. Schmidt. All were elected by ballot.

Dr. C. H. Bradley proposed the following names for membership:

Drs. Martin Aune, Manuel Oberg, K. I. Lee, E. Moran, J. O. Taft, J. E. O'Donnell, Frederick H. Pauke, John Butler, Nimord A. Johnson, A. F. Bloomberg, Henry W. Quist, S. C. Boram, George A. Stevenson, G. L. Hagen, Julius Johnson, T. Holen, Troy S. Miller, R. J. Phelan, J. O. Post, C. A. Dawson and S. P. Aspalen.

Dr. H. L. Staples offered the following:

Resolved by the members of the Hennepin County Medical Society, that we will endeavor to prescribe only the prescriptions of the U. S. Pharmacopeia or the non-official remedies approved by the Council of Pharmacy and Chemistry of the American Medical Association. Motion carried.

Dr. J. A. Watson moved that the President appoint a committee of three who shall consider and report on the advisability and practicability of obtaining an official collector for the Society, and report at the next meeting, such collector to report to the Society at stated intervals, could be of great use to each individual member of the Society in that he would be furnishing, at a minimum of cost, the things that he needs very badly in regard to the financial ability or willingness of his patients to pay their bills.

Dr. L. F. Foote: I do not know that I understand clearly the object of this motion to appoint an official collector for the physicians of this city.

Dr. Watson: An official collector should be appointed by the Society, to whom every member of this Society would give his account to collect.

Dr. C. H. Hunter: I was under the impression that a committee had been appointed to look into this matter.

Dr. C. H. Bradley: The committee that was appointed is a local committee, in organized effort to get into touch with the public and acquaint the public with the means and aspirations of the medical profession. These local committees, of course, act in conjunction with that committee. They might, I presume, take up just such a matter as this.

Dr. Watson: This is a matter that concerns the Hennepin County Medical Society alone.

Dr. F. A. Knights: I ask for information. Does this question come under the heading of constitution, by which a question would be referred, without debate, to the Executive Committee, and reported back to the Society? I am not ready to vote on this question myself.

The President: I think it is a proper question to be referred to the Society.

Dr. C. H. Hunter: We have a committee whose business it is to study this question. It would hardly be courtesy to take such an important matter as this from their hands.

The motion was carried, and the President appointed on that committee: Drs. J. A. Watson, H. L. Staples, and A. E. Benjamin.

"A Demonstration of the Pasteur Treatment and the Diagnosis of Rabies," by Dr. Orianna McDaniel, was interrupted on account of the lantern failing to work satisfactorily. This demonstration will be given at a later meeting.

Dr. A. W. Abbott reported a case of a woman who, in 1905, had cystitis, as follows:

Her physician, Dr. Mattison of Sioux City, Iowa, had preserved a very good record of her case, and the diagnosis was undoubtedly correct at that time. She came into the hands of Dr. T. F. Quinby about a week before I saw her. He separated the urine, obtaining a few drops of pus from the left kidney, with a more than normal amount of normal urine from the right side. She sought Dr. Quinby's advice on account of a tumor which she discovered in the left lumbar region. From 1905, as far as she knew, she was perfectly well. No symptoms connected with the bladder or kidney whatever; appetite, strength, and nutrition apparently normal. In other words, she felt absolutely well. On passing a wax-tipped catheter into the pelvis of the left kidney, we obtained scratches indicating stone. Our diagnosis was, therefore, pyelitis and renal calculus, with the possibility of malignant disease.

Dr. Quinby and I removed the kidney, which measured 8x4x4 inches, without aspiration for fear of infection. It may be asked, if the patient presented no



symptoms, why did we remove the kidney? The operation was advised, first, because stone with suppuration of the kidney is always a menace to health; second, we were not sure that there might not be some malignancy, and third, because the prospect was good that the operation would be a safe one as the other kidney was normal and tully competent. The patient has made an uneventful recovery. As I wished to preserve the specimen for the University Museum, I have, instead of laying the kidney fully open, had these photographs taken by Dr. Harrington of the x-ray picture of the kidney after removal. They show beautifully the stones and abscess cavities.

Dr. H. L. Ulrich, having been asked by the program committee to discuss Dr. Aurand's paper on "The Treatment of Typhoid Fever" in the light of vaccine therapy, spoke as follows:

#### VACCINE THERAPY IN TYPHOID FEVER

The expectant treatment of typhoid fever has reached its greatest possible development, and it is not astonishing that with the rise of our biochemical knowledge of infectious diseases that typhoid fever, with its definite clinical picture, its prolonged reaction, and its importance in the social economy, should prove an alluring field to the immunisator. The immunising factors involved in typhoid fever are not as yet clearly understood. In every infectious disease three forms of the immunising mechanism come into play: the bacteriolytic, the phagocytic, and the antitoxic types.

It is a tendency of students of immunity to give undue emphasis to one of these types of immunisation, according to the ability of its demonstration and its present value in a therapeutic sense. Thus, in diphtheria and tetanus, the antitoxic picture is emphasized. In infections of cocci, notably streptococci and staphylococci, the phagocytic agency, by means of the opsonins, is emphasized, and lately, in typhoid, Dr. Vaughan of Ann Arbor calls particular attention to the bacteriolytic type of the immunising mechanism.

As a matter of fact, in every infectious disease, all three types, or factors, are called into play. It may be sequential, together, or combined in various orders that they do their work. This holds good in typhoid as well as diphtheria, or in tuberculous or staphylococcal infection. Thus it seems only reasonable that we should choose the most potent agent to bring about this immunisation, which is, of course, bacteria themselves.

In a historical sense, Wright of London has shown definitely that antityphoid inoculations are successful. These statistics, as reported by Richardson, give the following results: In almost 2,000 cases of inoculated cases, the mortality was something like eight per cent, and in those uninoculated it has reached the usual sixteen per cent. The incident of the disease in various squadrons was reduced from two to twenty-eight times as against those uninoculated. Professor Chantemesse of Paris has had wonderful results with what he calls an antitoxin in the treatment of disease, and this he obtains by inoculating true toxin into a horse and using the horse's serum in his treatment. In 1,000 cases he reduced the mortality to four per cent against sixteen per cent in the untreated cases. Richardson of Boston has treated 132 cases with typhoid serum bouillon filtrate, and the non-toxic residue of Professor

Vaughan, which in reality is a modified vaccine, with indifferent results. In one case treated with a non-toxic residue, he was able to reduce the complications from 22 to 5 per cent. He also treated two cases with autogenetic vaccines with good results, and he calls attention to the fact, that, to gain the greatest benefits, vaccine therapy must be started early in the disease.

I have treated eight cases at the City Hospital. They received from one to four doses of vaccine, varying from 10,000,000 to 50,000,000 bacteria. Three cases I tested modified the temperature and improved the general condition of the patient. In one case the delirium ceased after the second injection, and in another case the middle-ear complication was stopped. I present these charts to show the modification of the temperature after the injection.

#### REPORT OF TYPHOID CUTANEOUS REACTION

Since the two principal papers on the program are not to be read to-night, I would like to call the attention of the Society to a new typhoid test. I call it the typhoid cutaneous reaction.

After reading von Pirquet's test in tuberculosis, I started to make a toxin to apply the same principle in typhoid. I grew a virulent typhoid for one month in bouillon. I added salt solution to allow for the evaporation; then I shook it thoroughly, and sterilized it at sixty degrees centigrade. I then shook it up and let it stand in the sun to let the organism undergo a certain amount of hydrolysis—I think the sunlight is capable of performing this task. To get rid of the bacilli in my fluid, I inverted the test-tube to allow them to gravitate down into the drawn-out end, and then cut this portion of the tube off. This was repeated several times. I draw this typhoid toxin into capillary tubes to make it portable.

To perform this test, the suspected patient's forearm is cleansed with ether. A drop of typhoid toxin is placed on the skin, and by means of an old ear-pricker is widened at the end so that about a millimeter of sharp edge is used. I vaccinate the patient by rotating my pricker in the drop, with gentle pressure. In doing this I avoid drawing blood, and try to minimize the extent of the denudation of the epithelial surface. The pricker is then carefully cleansed in alcohol and wiped, and the control is performed one inch from the first vaccination with a drop of normal salt solution. In about ten hours the area vaccinated by the toxin assumes a dusky-red color, very much resembling a rose-spot. This area never exceeds seven millimeters and differs from a rose-spot in the fact that it is umbilicated, and is much milder in reaction in comparison with von Pirquet's reaction. The salt-solution area sometimes evolves a slight area of redness which disappears in twenty-four hours. The toxin area increases in that time and gradually fades the next two days.

After working this out up to the present status, I looked up the literature for the last two years and was unable to find anything of this nature reported, so that this Society is first to receive this typhoid cutaneous test. I did find, however, reports of the typhoid ocular reaction. In July, 1907, Professor Chantemesse reported to the Paris Society typhoid ocular reaction in some 150 cases, which he thought were specific. Hamburger of Chicago, in 1908, reported 57 cases of typhoid ocular reaction. Both these men observed the same comparison with the tuberculin reaction of the eye as I have observed with the tuberculin



reaction on the skin, namely, that the typhoid is much milder.

In analyzing the cases seen in the subjoined chart, we find them all clinically diagnosed typhoid. One ease of chronic rheumatism gave the reaction, but a typhoid history was illustrated twenty years ago. No other disease has given the test so far.

I shall go on with my study of this reaction, intending to make my toxin of a higher concentration, and I respectfully ask the co-operation of the Society for the use of their eases in collecting my statistics.

#### TYPHOID CUTANEOUS REACTION

Case	Age	M	F	Clinical Diagnosis	Widal	Hours			When test was made
						24	48	72	
I	23	+		Typhoid	+	+	+	+	12th day
II	48	+		"	—	+	+	+	15th day
III	28	+		"	+	+	+	+	11th day
IV	22	+		"	+	+	+	+	20th day
V	19	+		"	+	+	+	+	21st day
VI	28	+		"	—	+	+	+	7th day
VII	17	+		"	+	+	+	+	12th day
VIII	22	+		"	+	+	+	+	26th day
IX	50	+		Chronic Rheumatism	+	+	+	+	
X	22	+		Typhoid, 20 yrs. ago	+	+	+	+	
XI	2	+		Revised to pleurisy with effusion.	—	—	—	—	
				Pneumonia	—	—	—	—	
				Central pneumonia.	—	—	—	—	
				Adenitis, tonsillitis, Otitis media.	—	—	—	—	
XII	30	+		Tuberculosis, 6 mos.	—	—	—	—	
XIII	24	+		Tuberculosis, 2 yrs.	—	—	—	—	
				Temp. very high....	—	—	—	—	
XIV	22	+		Tuberculosis.....	Slight	+	—	—	
XV	24	+		Tubercular adenitis.	—	—	—	—	
XVI	24			Normal	—	—	—	—	
XVII	32			Normal	+	+	—	—	
				Typhoid, 1 year ago.	+	+	—	—	

In closing, I wish to thank the staff of the City Hospital for their kind indulgence in permitting me to work in their wards, and the Superintendent of the Hospital for his hearty co-operation. Most of these tests were made for me by Dr. Huenekar of the City Hospital, two tests were made by Dr. Robertson, and one test was made by Dr. Nootnagel.

#### DISCUSSION

Dr. L. W. Day: I have been very much interested along this line, and I had quite a chat on this subject with Dr. Hastings, who is professor at the Cornell school. He showed me a number of his typhoid eases which he had been treating with typhoid toxins. He makes this statement that he did not find that it shortens the period of typhoid fever at all, but he said the mind of the patient seemed to clear up and he loses the appearance of extreme toxicity, and the cases ran a much milder and more uneventful course. For that reason he is enthusiastic and continues to use it, although he does not think it shortens the period at all.

I saw Prof. Barker's cases at Baltimore, and he said he did not know the toxins. He did not believe in them, and he did not believe they did any good.

This question seems to have been taken up by the Eastern physicians alone in the past, but I am glad to know that the Western physicians have taken it up, and I think we are all very much indebted to Dr. Ulrich for what he has done.

Dr. R. J. Hill: These inoculations are not given until very late—the twentieth day, and even later. What is the reason for not giving them in the beginning?

Dr. Ulrich: We get the patients in the City Hospital about the 16th or 21st day as a rule, and it is only

within the last twenty days that I have been using this work, but as soon as the typhoid patient comes in we inoculate him. Anything that suggests typhoid, we inoculate.

Dr. H. L. Staples: None of the patients have been harmed in the least. I can see that from observation, and I think two of them have been benefited, and it seems, in one ease alone, the duration of the disease was shorter. I think we ought to give Dr. Ulrich all the help we can in this work. It seems that nothing we have done heretofore has been able to benefit our eases, and this possibly may be of service. I think we are now working in the right direction.

Dr. L. A. Nippert: I want to ask, Had there been any other treatment of typhoid when he used the vaccine? In my opinion, had there been any other treatment used, the conclusions would not have been of advantage. I am not very much in favor of using anything that is experimental.

I think what Dr. Staples said is very pertinent. This disease is very epidemic, and all things must be taken into consideration, and before anything is taken in treatment of it, we shall have to study it for a period of years before our conclusions are of value.

#### REPORT OF A CASE, AND PRESENTATION OF SPECIMEN BY

DR. F. A. DUNSMOOR

This case is doubly interesting from the fact that this patient has been operated on for extra-uterine pregnancy twice within the year, and is the second patient on whom I have operated twice for extra-uterine pregnancy, and in each case the time between conceptions was about ten months.

Mrs. Wm. M., aged 30, married in 1903, menstruated regularly until first pregnancy, and gave birth to a child in Nov., 1906. She was operated on in 1908. She had none of the usual symptoms of pregnancy, but started to menstruate regularly, and continued for two weeks. During the latter part of the last period, the flow became constant with rupture of the tube, agonizing pain, and collapse.

Dr. O'Brien saw her in the middle of the night. I met him in consultation in the morning, brought her immediately to the hospital, and removed the extra-uterine growth, with the tube and ovary on the left side. There had been a large hemorrhage, and the patient seemed in extremis, but made a good recovery.

Two weeks ago, the patient called Dr. O'Brien again and told him that she had the same symptoms which antedated her previous ectopic pregnancy, and she was sure that she was again pregnant in the opposite tube. There had been a slight discharge of blood and watery fluid from the uterus for two weeks, with occasional stinging pain in the right side. She called Dr. O'Brien again and made the diagnosis herself. The doctor asked me if I could call and see her in consultation. I replied, if they both agree on the diagnosis, to bring her to the hospital at once. I operated the next morning, and removed the specimen herewith presented, about the size of a robin's egg, and with no signs of rupture; evidently, the pain being due to the stretching of the tube, and not to its rupture. I was able to separate the tube from the uterus and ovary, and left the latter for functioning purposes. The operation lasted ten minutes. The patient re-

turned to her home on the tenth day, and is as well as ever.

Dr. Dunsmoor also reported a case of Cæsarean section from a woman with twins, ninth and tenth children, with a history of the eighth confinement being extremely difficult; and subsequent to the birth of that child, the mother had developed an angioma completely filling the vagina, extending down on the inner side of the thigh to her left buttock, and, as operation proved, involving the posterior two-thirds of the uterus, the blood-vessels of the uterus standing out nearly one inch in diameter. Condition of the blood-vessels compelled the decision of a Poro operation instead of a typical Cæsarean section. The patient did perfectly well. Both children were alive, and all returned to their home three weeks after the operation. As there were a boy and a girl delivered at this operation, I was asked if I rejected my theory, advanced in a paper which I read before the Society seventeen years ago, that the early conceptions after menstruation were female, while those subsequent to the eighth day were generally male. I still hold to my opinion since there were two placenta and sacs enveloping the children. When one sac and placenta includes twins, in my experience the sex has invariably been the same of both children.

As to the development of my theory: I had one problem to settle, and that was, if I could find a condition in any species which governed the sex, it should work out the same in the human family. And while I corresponded with physicians, teachers of obstetrics, and breeders in this country and Europe, I finally fell upon an experimental fish-hatchery where it had been discovered that when the female frog had her eggs at full time, and they were afterwards covered and impregnated by the male, the sexes were even, but when a female frog was stripped of her eggs, they therefore being immature, and then impregnated by the male frog, 96 per cent of the progeny were female. This being the basis of my theory, and assuming that a woman menstruates at the same time she ovulates, the length of time which elapses subsequent to that function determines the maturity of the ovum. From all observations which I could gather, I believe the eighth or ninth day to be the dividing line, and I have had hundreds of letters from physicians and breeders corroborating the truthfulness of this theory. I may say I have had a few obstinate disbelievers, which may be accounted for in the probability of a woman menstruating and ovulating at a different period.

The President announced that Dr. V. C. Vaughan, of Ann Arbor, Mich., has consented to be present at the annual banquet and read a paper on "Fevers."

C. H. BRADLEY, M. D., Secretary.

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## NEWS ITEMS

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### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. Alexander Barclay has moved from Aitken to Cloquet.

Dr. Darie Lemieux, of Dunseith, N. D., is home from a trip to Europe.

Dr. H. R. Weirick was unanimously re-elected mayor of Hibbing last month.

Dr. Arthur H. Clark, of Worthington, died last month at the age of 62 years.

Dr. Albert Sherrill, of Camp Crook, S. D., is doing post-graduate work in Chicago.

Dr. H. M. Finnerud, of Watertown, S. D., has been attending clinics in Chicago.

A hospital building to cost over \$30,000 will be erected this summer at the Indian school at Wadena.

Dr. J. W. Stribling, of Dickinson, N. D., has decided to locate in the East, somewhere in New England.

Dr. A. Dowswell, of Hutchinson, has purchased the practice of Dr. George Peterson, of Murdock.

Dr. John C. Jacobs, of Spicer, has leased the Frost Hospital at Willmar, and will move to Willmar for practice.

Drs. Weidow and Mork, of Worthington, have completed extensive improvements upon their hospital at Worthington.

Dr. E. L. Fortier, State University, '08, has moved from Perham to Little Falls and entered into partnership with his father.

Dr. Samuel Keller, son of Dr. A. H. Keller, of Sioux Falls, S. D., has purchased the practice of C. W. Lock, of Garretson, S. D.

It is reported that Dr. W. E. Browning, of Caledonia, has received the plans for a private hospital which he will build at once.

Dr. L. J. Townsend, of Belle Fourche, S. D., has moved to Fremont, Neb. He will do surgical work exclusively in his new location.

Souris, N. D., has the promise of a hospital. L. J. Mork and Emil Erickson, two progressive business men, are at the head of the movement.

Thirteen nurses graduated from the Minneapolis City Hospital last month, the graduating services being quite elaborate and largely attended.

Dr. C. C. Corson, who formerly practiced at Superior, Wis., and Proctor, Minn., died last month at Plymouth Meeting, Pa., after an illness of several months.

Dr. A. E. Pettingill, who practiced a number of years at Ortonville, whence he went to Superior, Wis., and then to Frederick, S. D., died last month in Arkansas at the age of 67 years.

A very stringent bill regulating medical advertising in newspapers has been passed by the legislatures of North and South Dakota, and will probably pass, although in a modified form, the Minnesota legislature.

A bill has been introduced in the Minnesota legislature authorizing medical inspection in public schools in cities of more than 50,000 inhabitants. It is difficult to understand why the limitation of 50,000 inhabitants is made.

At the March meeting of the Grand Forks (N. D.) District Society papers were read by Dr. F. V. Lyman, of Thompson, Dr. W. B. Mowatt, of Walhalla, and Dr. F. J. King, of Grand Forks. There was a discussion of the topics and a lunch and smoker were enjoyed.

Dr. Arthur B. Ancker has been re-elected superintendent of the City and County Hospital of St. Paul for four years. He has served in this capacity for twenty-six years, and this is his first election without opposing candidates for the office. The new children's and women's building, with 175 beds, is nearly completed. Dr. Ancker has given the hospital a reputation for excellence and efficiency rarely attained by a public institution of this character.

The State University Chapter of the Phi Rho Sigma fraternity gave its annual banquet at the West Hotel, Minneapolis, on March 17th. About 75 guests were present. Dr. George P. Crume acted as toastmaster, and the following toasts were responded to:

"The Doctor's Joys," Dr. J. W. McDonald; "The Neurologist," Dr. Chas. C. Manger; "Therapeutic Nihilism," Dr. N. Dreisbach; "Theta Tau," Mr. Ray Gardner; "The Alumnæ," Dr. Julius Johnson.

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### PHYSICIAN WANTED AT ONCE

I want a physician to take my place, which I am leaving on account of my health. No charge. Excellent opening; no competition for 40 miles. Address Dr. T. H. Duncan, Big Fork, Itasca Co., Minn.

#### PRACTICE FOR SALE

I am going to the coast, and will turn over my practice to the purchaser of my office building, a good-paying property; part cash and part on time. Practice will pay \$3,500; in a manufacturing, railroad-division town, with good farming community, 100 miles from Twin Cities. Address M. S., care of this office.

#### PHYSICIAN WANTED

For office practice in St. Paul and Minneapolis. Must be licensed to practice in Minnesota; of good character, ability, and habits; from 50 to 55 years of age. Address T. M. M., care of this office.

#### PRACTICE FOR SALE

Practice that pays \$3,500; can be increased by \$1,000 or more; established 15 years; in growing county-seat of 1,200 inhabitants; 95 miles from Twin Cities. Practice goes to purchaser of my 14-room residence, with barn and large shady lots, in choice residence section, which cost me \$6,000. Will sell for \$5,000 (\$1,500 cash; balance \$50 monthly), and remain long enough to introduce successor. Address L. M., care of this office.

#### PRACTICE FOR SALE

One of the best openings in Minnesota awaits the physician who will purchase my office equipment and a limited number of sundries for a few hundred dollars, part on time if desired.

Practice well-established and amounts to nearly \$4,000 annually. Easy practically all "good," and can be increased. Address C. W., care of this office.

#### POSITION IN OFFICE WANTED

A middle-aged woman with experience desires position in physician's office. Understands book-keeping. Address A. M., care of this office.

#### POSITION AS SUPPLY WANTED

A senior student of the Illinois University desires a position as assistant to a physician during the summer. Can do all general work. Best of references. Address C. C., care of this office.

#### AUTOMOBILE FOR SALE

I will sell my 3-seated, 1908 machine, which has been run only four months and has scarcely a scratch on it. It is in perfect condition, has full top, glass front, oil and gas lamps. Will give absolute guarantee of its condition. For particulars, address J. A. D., 61 East 10th St., St. Paul.

#### PRACTICE FOR SALE

Unopposed practice near Twin Cities, pays over \$2500, with first-class and complete equipment, can be had at price goods invoice. A rare bargain for one looking for an excellent location. Write for particulars and give references, and the seller will give best of references. Good reasons for selling. Address T. E., care of this office.

*Physicians, Attention*—Drug stores on easy payments, etc. Drug store positions, United States or Canada. F. V. Knies, Omaha, Nebr.

*Stenographic Work*.—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## FRACTURE OF THE FEMORAL NECK, AND ITS TREATMENT\*

BY A. S. RIDER, M. D.

FLANDREAU, S. D.

Fracture of the neck of the femur, while not a common accident, still occurs with sufficient frequency to fall within the experience of nearly every doctor at some time in his career. In such an event so much is at stake with respect to the future usefulness, comfort, and even life of the usually aged victim, that any improvement over the generally known methods of treatment, is a matter of great importance, in view of the comparatively poor showing made by text-book methods. Death, either directly from shock or within a week from pneumonia, or at a later period from exhaustion resulting from pain and prolonged restraint, is an only too common termination. If the patient escapes these fatal consequences, non-union with permanent lameness is a frequent result, except in those fortunate cases where impaction occurs and is not broken up either by the patient or by efforts at establishing a diagnosis, or where the continuity of the periosteum is preserved. These fortunate conditions are more apt to obtain when the fracture is at the base of the femoral neck.

The anatomical condition that has had great bearing upon the prognosis under the text-book method of treatment, has been whether or not

impaction was present. In fact, in cases treated along text-book lines the existence of impaction seems to be the *sine qua non* of successful treatment. The method of treatment we purpose to demonstrate has given equally good results, regardless of the presence or absence of impaction. The methods of treatment to be found detailed in our text-books are about as follows:

1. Treatment by traction and long side or posterior splints.
2. Treatment by immobilization by means of a Thomas hip-splint or some such apparatus, or by incasing the abducted limb in plaster of Paris, as is advocated by Whitman in cases occurring in children, and suggested by Ridlon for adults.
3. Simple support by sand-bags.
4. Open methods of treatment.

The danger of these methods of treatment to aged patients is so great as to cause the caution to repeatedly appear in text-books, that it might be often wise to ignore the fracture and take care of the vital indications present at the expense of the limb. Cases treated along these lines, if we exclude the open methods, have given a prognosis according to our standard authorities about as follows:

1. Fracture of the base is apt to unite, owing

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.

to the fact that it is apt to be impacted or a good periosteal bridge is left intact.

2. Fractures elsewhere are apt to give non-union.

3. That prolonged immobilization and confinement to bed are very dangerous and often fatal to aged patients.

Scudder gives the results of 16 cases of fracture of the femoral neck that were treated at the Massachusetts General Hospital to be, briefly, as follows: Thirteen had impaired limbs; in only two could it be said the limb was useful. Seven of the cases were between the age of 42 and 47.

The results of open methods of treatment are good in the hands of a trained surgeon, yet in the feeble and aged any operation becomes an added risk and would be frequently not justified. Not every patient will or can have the advantage of a trained surgeon, and must be treated by the general practitioner who would choose non-operative measures rather than to venture open treatment.

The method of management originated by T. J. Maxwell, of New York, and his colleague, designated by Dr. Ruth as the *anatomic treatment*, has given as good functional results as the open methods, without the added risk of an operation and an anesthetic.

The reports now total over 100 cases, which is enough, certainly, to enable one to form a very correct estimate of the value of the method. The results have been as follows:

Cases between 80 and 88 years of age, total 12. Two were treated only two and four days. Of the remaining ten, there were *eight* had union with ability to walk well unassisted. Two were prevented from walking by paralysis, but had strong bony union in good position.

Cases under 80. Union occurred in all. Serviceable limbs have been secured in every case. No failure to secure union has occurred, regardless of age of the patient, when treatment has been continued for four weeks.

These results have been obtained by the use of the anatomic treatment in the hands of many different men, many of whom had had no previous experience in its use. Patients so treated have had little or no pain. The method permits of a change of position for rest as the sitting posture can be attained at any time, and the patient can shift about to a limited extent. All parts of the body are readily accessible for cleansing or massage, and the bed-pan can be used with ease. It can be used at practically every age and in every physical condition. The mortality is as low as, if not lower than, any method of treat-

ment that considers the fracture at all. Over 100 cases, with bony union in every case treated by this method for four weeks, certainly warrant the assertion that non-union occurs solely as a result of failure to secure a proper adjustment of the fragments and to maintain them in coaptation.

The method simply seeks to apply to fractures of the femoral neck the same principles that govern the treatment of fracture of the shaft of the femur at its middle; that is, extension in the axis of the bone to overcome the forces tending to cause longitudinal displacement, and secondly, splinting at the site of the fracture to prevent lateral displacement. As the neck of the femur makes an angle of  $130^{\circ}$  with the shaft, it is at once evident that traction in the direction of the limb will not suffice to gain our end. However, if, in addition to our longitudinal extension, we make lateral extension in a direction outward and a little upward, the effect on the upper end of the femur will be the same as though our pull was being made along a line midway between the two. This would practically coincide with the direction of the femoral neck, and our first indication has been met. Since we cannot apply splints to the fragments of the broken femoral neck, we might not have been able to meet the second cardinal indication if it were not for the aid of nature who has furnished our splints ready made and applied in the form of the strong capsular ligament which surrounds the neck, and the reinforcing Y ligament. These structures are of great strength, especially on the anterior surface, and are but rarely materially injured.

The proximal fragments, having no muscular attachments, are entirely passive and have no tendency to resist any co-aptative force, no matter how slight. Now, if we apply traction in the line of the neck of the femur, the capsule and Y ligament are stretched taut and line up the passive proximal fragments, as would be a row of broken bones in a close-fitting sleeve, if the sleeve were drawn tight. The main part of the anterior portion of the capsule passes from the rim of the acetabulum to the anterior intertrochanteric line, but there are many strong fasciculi passing between the femoral neck and the capsule, on the anterior as well as on the posterior surface. These are so many and so strong that even cases in which the femoral neck is comminuted and the capsule one-half destroyed, if sufficient traction be made in the line of the neck of the femur, all fragments will at once be aligned. Extensive injury to the capsule is rare unless as a result of unwarranted manipulation.

These facts have been proven by Dr. Ruth by many dissections and experiments on the cadaver.

In this manner by combining longitudinal and lateral extension we secure traction in the axis of the femoral neck and counter to the forces tending to cause displacement of the distal fragment. By making taut the strong sleeve-like capsular ligament, we effectively splint the passive proximal fragment or fragments, as the case may be, and maintain them in proper alignment. Thus we have placed ourselves in the same favorable condition to obtain a good result as though dealing with a fracture of the shaft.

The technic of reduction and application is, briefly, as follows: The patient is placed on the back on a firm mattress, and best on a small iron bed. The diagnosis being made we provide for our longitudinal traction by applying a Buck's extension. The thigh and leg are shaved, and zinc oxide adhesive strips two inches wide should be used extending from three inches above the ankle to the middle of the thigh. These are anchored by encircling strips above the ankle, above the knee, and at the upper extremity of the side strips, and are covered by a roller bandage. A spreader foot-piece is used to keep pressure off the malleoli, and connected to a cord conducted over a pulley at the foot of the bed, in readiness for the weight, which should not be applied until the plaster has had a few hours to adhere firmly and the fracture has been properly reduced.

Around the upper, anterior, internal, and posterior surfaces of the thigh a piece of binder's board six inches wide is moulded and fixed in position by adhesive plaster. This is to prevent the bandage or plaster attached to the lateral traction from cutting in and producing discomfort. A strong strip of adhesive plaster three inches wide is then placed around the thigh as near the body as possible and over the binder's board. A post is prepared at the side of the bed with a pulley on top, so that its summit will be from twelve to eighteen inches above the body surface and placed about opposite the crest of the ilium. The ends of the adhesive strip are to be secured to a strong bandage and it in turn to a cord, which is to go over the pulley at the side of the bed. This, when the weight is applied, provides for our lateral traction. Suitable weights being at hand and all preparation being made to attach them we are ready to proceed to the reduction of the fracture.

The muscles attached to the distal fragment tend strongly to evert and shorten the limb, and to force the great trochanter to a point behind

and internal to its normal position. The powerful psoas and iliacus muscles, formerly neutral or internal rotators, now become powerful external rotators, and, assisted by the weight of the limb, tend strongly to produce eversion, and owing to their close relation to the capsule of the joint in front, they tend to force the adjacent soft tissues between the fragments. This has no doubt been a frequent cause of non-union. The thigh, therefore, should be flexed at right angles to the trunk, to bring the line of action of the psoas and iliacus away from the anterior surface of the capsule. An outward pull upon the upper part of the lower fragment should be made by an assistant until the great trochanter is as prominent upon the injured as upon the sound side. Meanwhile, traction is made on the limb in the axis of the body, while the thigh is extended until no shortening exists. Sufficient weight is applied to the longitudinal and lateral extension to maintain the reduction.

The longitudinal extension requires usually from fifteen to twenty-five pounds in the well-developed adult. The lateral extension requires about two-thirds as much, or from ten to sixteen pounds. The weight must be greatest at first and reduced later, as the muscles tire and cease spastic contraction.

The lateral traction must be high enough to overcome the weight of the limb and tendency to eversion, usually about fifteen inches. The foot of the bed must be raised to overcome the tendency to slide in that direction, the side corresponding to the injury must also be elevated to overcome the tendency to be drawn towards the lateral extension. The foot should be elevated about twelve inches on the fractured side and about eight inches on the sound side. The head of the bed should be raised about four inches on the fractured side. When the traction forces are so adjusted as to overcome the deformity and muscular spasms the patient will be free from pain.

No muscle or displacing force can act directly upon the upper fragment, which is perfectly passive and which by its free mobility in the acetabulum will be in perfect alignment with the lower fragment, if sufficient traction is steadily continued, no matter whether the patient is lying flat on the back or in the sitting posture. This fact enables our patient to be raised daily, or many times a day, for cleansing, to remain sitting for a time if needed for rest, or to overcome any tendency to hypostatic congestion.

No pain results from a sitting posture, and the position of the fragments is not disturbed. The



patient will be able by aid of the sound leg to lift the hips so that the bed-pan can be easily placed without pain or disturbance of the fragments. Every two or three days the longitudinal extension should be replaced for a moment by an equal hand pull upon the thigh, while the knee is raised at least  $30^{\circ}$ . Failure to heed this has caused all the discomfort and disability resulting in three cases thus treated, owing to the stiffness of the knee-joint.

In impacted fracture, if marked deformity exists the impaction should be broken up, and reduction and treatment proceeded with, as already outlined. The lateral traction should usually be so adjusted as to make the pull a little more on the under strap, in order to overcome the tendency to eversion. Treatment should be continued from four to six weeks. The patient must be seen frequently, to make sure that proper adjustment is being maintained.

Six of the reported cases have given us the specimens before you. Now the specimen labeled Case 2 is from a man 72 years old who fell from a wagon striking upon his right hip. He was treated by Dr. T. J. Maxwell, and was the second that was treated by this method. The foot was completely everted, and one inch of shortening was found. He complained of great pain in the hip which was flattened, and the trochanter appeared to be above and behind the acetabulum. Under chloroform, crepitus was developed by extension and rotation. As to results, the specimen speaks for itself.

Specimen labeled Case 22 is from a woman, aged 70 at the time of fracture. Treatment was begun one week after injury. Recovered with slight eversion. Walked without limp or aid and died five years later.

Specimen labeled Case No. 14 is from a woman, aged 78 at time of fracture. Recovered with one-half inch of shortening and did her housework on a farm without aid for eight years and walked without pain or limp.

Specimen labeled Case No. 34 is from a man, aged 74. Went one week without treatment. Was treated four weeks. Died five weeks after fracture from cerebral softening.

Specimen labeled Case No. 42 is from a woman, aged 70, who fractured her hip in November, 1902, and was sent to Dr. Ruth at St. Joseph Hospital for treatment. Complete eversion. One and one-half inches of shortening and slight crepitus were found under anesthesia. Treated four weeks by the anatomical method. After recovery she walked well with slight limp and with less than one-half inch of shortening.

Case No. 52 is from a woman, aged 74, and was treated by Dr. Ruth. Patient was a cripple because of injury to left limb eight years before. While on crutches she broke her right hip. Under anesthesia, complete eversion and crepitus were found. Shortening could not be measured, as the left leg was useless as a standard because of flexion and long disuse. Was treated four weeks. Patient died two months later from malarial fever.

#### DISCUSSION

Dr. R. L. Murdy (Aberdeen): The treatment of fracture of the femoral neck as worked out by Drs. Maxwell and Ruth, is of particular interest to me. I happened to be familiar with Dr. Maxwell's pioneer work on this line when he was applying these new principles to his first cases. The method has a peculiarly historical interest, as it marks an epoch and a distinct advance in the treatment. The work of Dr. Maxwell was taken up later by Dr. Ruth, who has done a good deal of original surgical work, and was further elaborated by him. He followed the early cases of Dr. Maxwell, as well as his own, and has been able to procure some post-mortem specimens which demonstrate the efficiency of the method. Dr. Ruth read a paper on this subject at the St. Paul meeting of the A. M. A. and presented some specimens, among which were some of the early cases of Dr. Maxwell's.

The principles of the method should be well understood by every practitioner who is called upon to treat these cases, as it is a distinct improvement over the old method of treatment.

The Essayist: When I read a paper and made a demonstration of this method of treatment for our district society, it seemed to be novel to three-fourths of those present. It should not be so. My acquaintance with it dates from the time when I was associated with Dr. Ruth as first assistant, and during that time I had an opportunity to observe several cases treated by him and also some by Dr. Maxwell. I have had three of my own. All of them have had good limbs. I was speaking to Dr. Ochsner yesterday in regard to his experience with this treatment, and he told me that while he could not say exactly how many they have had, but two years ago they had had over fifty, and they must run somewhere now nearly a hundred, with absolutely not a failure to obtain good bony union. So far, there has been no single failure to obtain bony union in a good position in any patient that has been treated for four weeks, and, moreover, the patients are very comfortable during that period.

#### THE HISTORY OF TUBERCULOSIS

George Frederick Laidlaw, of New York, says that we have passed from the stage in which we tried to kill the tubercle bacillus into one in which we try to help the individual, through his power of resistance, to kill it. This he calls vitalism.—Medical Record, April 10, 1909.

# DIAGNOSIS OF JOINT DISEASE\*

BY ALEXANDER R. COLVIN, M. D.

ST. PAUL

In the consideration of the diagnosis of any set of conditions, it is most necessary to realize the limitations of the possibilities in differentiation. He who most keenly appreciates the impossibility, at times, of making a diagnosis, is in possession of the fullest information concerning many medical problems.

In his "Lectures on the Diagnosis of Abdominal Tumors," Dr. Osler, quoting Traube, refers to three necessary self-interrogations, as follows: "Have we carefully observed all the facts of the case?" "Does the art permit of a judgment on the facts under consideration?" "Have we reasoned correctly upon the data before us?" He refers to these interrogations, to emphasize the necessity for correct reasoning.

While recognizing the value of all three questions, it seems as if the second one must be emphasized in considering joint affections. The impossibility, at times, of arriving at a correct conclusion from the evidence derived from ordinary methods of clinical observation, has led, in the case of abdominal disease, to the necessity of exposing the interior of that cavity to a closer inspection by exploratory incision; and although the resort to this method of diagnosis by the impatient individual is very often an unnecessary procedure, the recourse to it by the most competent clinicians, is an acknowledgment that, on many occasions, the art does not permit of a judgment on the facts under consideration. A full realization of this fact will lead to repeated observations in the examination of joint conditions, and cause us to make use of one of the greatest diagnosticians,—time,—as he reveals to us, by the gradual development of symptoms, the nature of the disease, or to make use of therapeusis as a diagnostic assistant.

In many instances we must be considered impatient, if we have not called these two assistants in to help us.

It is not sufficient in joint investigation to think only of morbid processes affecting local structures, and to limit our observations to what may be seen or felt there. The joint must be approached as an organ whose function is motion. Associated with this function are the muscles producing it and the nervous system controlling them. As emphasizing this, both to see and to

feel reflex muscular spasm, is one of the most important points in connection with the differentiation of conditions in or around joints. Diagnosis presupposes a classification, and herein lies, at present, the difficulty of differentiation. Classification of joint diseases upon an etiological basis, may still be said to be impossible, although much has been done in recent years in this direction.

The effects of injuries in the neighborhood of joints, with a resulting joint disability, are now more clearly understood, since the advent of the radiograph. Such injuries are less frequently designated as sprains when fractures without appreciable displacement can be demonstrated. Even after repeated surprises, it has frequently been my lot to take a radiograph, remarking at the same time that it seemed a useless procedure, when another surprise would convince me of either a careless examination or the impossibility of making a diagnosis without the radiograph.

Acute traumatic synovitis is usually evident enough. Acute trauma in the sense of a loose cartilage, or of any loose body in the joint being caught in the articulation, requires special mention. The characteristic phenomena here are recurring attacks of sudden locking of the joint, followed by an exudate in the joint; that is, an acute traumatic synovitis.

Following an acute trauma with tearing of the ligaments, for instance, the ligamenta alaria in the knee-joint, there results an inflammatory thickening of those structures which predisposes to their being caught, much as a foreign body or loose cartilage. The so-called joint lipomata, also found most frequently in the knee, may likewise manifest themselves by acute painful attacks, although this condition is essentially a chronic one.

The infectious nature of certain acute and chronic conditions which were formerly classified under rheumatism, is strongly urged by many. According to others, the evidence in that direction seems not to be conclusive. The investigations undertaken in this direction have demonstrated, however, that many of the cases of arthritis which we have heretofore been satisfied to call rheumatism, are really infections due to various microorganisms of a familiar kind, and that many of these infections are recovered from, the joints in the meantime not having undergone any of the destructive changes which we are

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

accustomed to see, as the result of the invasion of the joints or other tissues by these microorganisms. That one of these microorganisms, the gonococcus, can produce any grade of arthritis, from serous to purulent, has now long been



Fig. 1. Wrist and carpal joints after infection following trauma.



Fig. 2. Wrist and carpal joints of a long-standing arthritis deformans.



Fig. 3. Complete destruction of the ulna with the formation of a new shaft. The trouble began in the metaphyseal region, and was attended by joint swelling. a. new shaft; b. old shaft (sequestrum).

known. The opinion in many quarters now is, that other microorganisms may cause, in like manner, an arthritis of any grade.

It is surprising when we approach the clinical side of arthritis in an attitude of suspicion regarding infection, how frequently we are able to associate the joint trouble with some infection existing elsewhere in the organism. The tonsils, decayed teeth, otitis media, disease of the various cranial sinuses, have all furnished cases of joint trouble where, after the cure of the local infection, the so-called rheumatism has subsided.





Fig. 4. Showing a small focus of destruction in the lower (metaphyseal) region of the humerus. This destruction was at first confined to the metaphyseal region, but later destroyed a small corner of the epiphysis. The infecting agent was the staphylococcus. a. area of destruction in metaphyseal region; b. periosteal thickening; c. area of destruction in epiphysis.

If, then, we add cases clinically known as acute rheumatism to the acute infectious list, the classification of acute joint diseases is very much simplified. The diagnosis of an infection is thus also made easier, but the diagnosis must now specify the microorganism causing it and the grade of arthritis present. The diagnosis should also include, where possible, the origin of the infection.

Under the newer classification, however, we must be as alert as ever to distinguish the purulent from the less serious grades, just as we are on the outlook to determine whether an inflamed appendix is of the suppurative kind, or whether a pleural exudate is serous or purulent.

The acute joint conditions occurring in the course of the infectious diseases, for example, scarlet fever, are more readily understood from the above point of view. It will be remembered that the distinguishing feature of acute articular rheumatism, clinically, was that the arthritis was never purulent. Inasmuch, however, as the infection may have led to a fibrous grade of arthritis, ankylosis may occur.

It will be at least suggestive to show here two radiographs. The first (Fig. 1) is of the wrist-joint of a young man who, about a year before the taking of the radiograph, had an infection of the joint, due to a punctured wound. This was followed by prolonged suppuration. Clin-

ically, the joint was immovably fixed. The radiograph shows a complete fusing of the carpal bones among themselves and with the bones of the forearm, *i. e.*, bony ankylosis. The other radiograph (Fig. 2) is of the wrist-joint of a man of sixty years who gave a typical history of rheumatoid arthritis extending over twenty years. Clinically, the joint was firmly fixed. The radiograph shows, as in Fig. 2, bony ankylosis of the joint.

In such a classification of infections, the non-suppurative form will be the most frequent. Multiple suppurative arthritis occurring independently of associated bone disease or some other very evident pus condition, is not very common, but it does occur.

Multiple acute or subacute pyogenic osteomyelitis in children, where the infection begins, as is usually the case, in the region of the shaft close to the epiphysis, or less commonly in the epiphysis itself, may attract attention by the multiple joint swelling, and may be mistaken for a primary joint infection or acute rheumatism.

In every case of suspected acute articular rheumatism in children, one's attention should be repeatedly directed to the joint ends of the bones, to detect evidence of bone infection. The early recognition of bone disease may mean not only the saving of the bone, but the prevention of serious joint mischief, for very often the exudate in the joint in the early stages of bone trouble is of a serous nature, and this will disappear with the drainage of the bone.

Quite recently, a most instructive case illustrating this point came under my observation. A girl, eighteen years of age, August, 1908, had an infected corn on one of the toes of her left foot. Three days after the beginning of the infection her temperature was 105°F. She complained of pain in the left knee. There was a very localized area of tenderness over the inner tuberosity of the tibia. Under local anesthesia an incision was made at this point through the periosteum, and a few drops of pus obtained. Pus was also seen pulsating through the vascular canals of the bone. A small area of cortex was removed, when a very limited area of infection was found in the spongy tissue of the bone. Three days later pain was felt in the right knee, and tenderness was elicited over the same area as described as existing in the left tibia. Upon incising the periosteum it was found normal, but on opening the bone about a teaspoonful of pus was liberated. The opening of the bone in the right side closed very quickly, and there was not



Fig. 5. Showing area of destruction due to sarcoma in the lower end of the femur.

at any time any demonstrable effusion in the knee-joint. On the left side the opening in the bone persisted for some time, and a marked effusion in the knee-joint developed. Cultures made from the pus obtained revealed the staphylococcus pyogenes citreus.

Fig. 3 is the radiograph of the ulna of a child of five years of age, who was the subject of multiple joint swelling simulating rheumatism. The condition had been treated as such until the development of multiple abscesses revealed the nature of the trouble. The radiograph shows complete destruction of the shaft, with the beginning formation of a new one. A study of the joint ends of the bone would, in all probability, have led to earlier surgical interference and spared the child a year of invalidism.

The relation of the joint capsule to the bone determine whether the rupture of the bone abscess will be likely to occur in the joint. The hip-joint is the most vulnerable in this respect.

The ordinary clinical evidence not being suffi-

cient to enable us to form a judgment as to the grade of arthritis present, it is necessary to aspirate some of the fluid, and, either by the physical findings or by microscopical examination, determine the nature of the trouble.

The division of joint diseases into acute and chronic, is not altogether a satisfactory one. In children chronicity and tuberculosis are very apt to be regarded as synonymous. It is very important to remember that staphylococcus infection of the joint end of a bone may produce joint symptoms extending over a period of time, which may well allow the term chronic and may be readily mistaken for tuberculosis. Inasmuch as a more aggressive operative therapy is indicated and successful in ordinary pyogenic disease, the differentiation is important.

Fig. 4 is the radiograph of the elbow-joint in the same case as Fig. 3. Here a small focus of infection had existed for six months, causing swelling and stiffness of the elbow-joint. Liberation of a few drops of pus from the area desig-



Fig. 6. Area of destruction in the upper end of the tibia due to osteomyelitis. Knee-joint symptoms had existed for six months.

nated in the radiograph led to a rapid relief of symptoms and restoration of joint function. Cultures showed the *staphylococcus pyogenes aureus*.

Chronic joint disease presents even greater difficulties in the way of classification than the acute forms. Hoffa, in 1907, presented the following classification, founded, as he believed, on an etiological basis, although he admits that in some the etiology is still hypothetical:

A. Non-infectious chronic joint diseases—

1. Traumatic arthritis chronica.
2. Irritative arthritis chronica (*hydrarthros chronicus*).
3. Constitutional or dyscratic arthritis chronica.
  - (a) Gout, (b) hemophilia.
4. Arthritis deformans.
  - (a) Spontaneous, (b) reactive, (c) neuropathic.
5. Functional arthritis chronica (joint neuralgia, intermittent hydrops).

B. Infectious chronic joint diseases:

1. Primary infectious chronic joint diseases.
  - (a) Polyarthritidis chronica progressiva primitiva or destruens. Rheumatoid arthritis.
2. Secondary infectious chronic joint diseases.
  - (a) Secondary chronic joint rheumatism, following an acute joint rheumatism, (b) chronic joint diseases after acute infectious diseases, gonorrhea, scarlatina, measles, etc., (c) tuberculosis, (d) syphilis.

Syphilis of joints, although less frequently seen, may present all the symptoms of tuberculosis, and be differentiated only by the therapeutic test. In the secondary stages of the disease the arthritis is liable to be multiple, attended by an effusion in the synovial cavity and by considerable pain. In late hereditary syphilis a





Fig. 7. Showing area of destruction at (a) due to tuberculosis in the olecranon process of the ulna. The process was one of a year's standing. The disease had extended to the synovial membrane. This figure demonstrates the necessity of a diagnosis from the point of view of pathological anatomy. Protective treatment would not have influenced the bone lesion, and, on the other hand, it was unnecessary to do a formal excision of the elbow-joint, excision of the olecranon process with removal of the synovial membrane being sufficient to eradicate the disease.

very common location is the knee-joint, and most frequently in both knees. The joint is enlarged, the capsule thickened, and pain may or may not be a very prominent symptom. Such cases may be, and are, mistaken for rheumatism.

The radiograph here exhibited shows the knee-joints of a child aged four years. The joints had been swollen and painful for several months. The father acknowledged having had syphilis, and the child possessed typical Hutchinsonian teeth. The swelling and pain disappeared under the use of mercury and iodide of potash. The radiograph did not show any changes in the bone. The disease was evidently in the synovial membrane.

In the acute acquired form, acute gummatous infiltration of the synovial membrane may simulate tuberculosis very closely.

Sarcoma, beginning in the joint end of the bone, may be impossible at first to differentiate from tuberculosis. Joint effusion, limitation of movement, and even elevation of temperature may be present. Such a group of symptoms usually means a very malignant form of sarcoma with rapid sarcomatous infiltration of the interior of the bone.

The radiograph (Fig. 5) is of a knee-joint where the symptoms enumerated were present for some time before the diagnosis was made. The patient had been treated for some time for tuberculosis of the knee-joint.

Giant-celled sarcoma, a comparatively benign form, may exist as an enlargement of the joint end of the bone, with disturbance of joint function for a long period of time.

In adult life rheumatoid arthritis and arthritis deformans, if monarticular, will have to be differentiated from tuberculosis. In adults I think it may be said that tuberculosis interferes more quickly and seriously with joint function than do the chronic rheumatoid affections.

In tuberculosis of joints the diagnosis is not complete until the pathological-anatomical condition present is ascertained. This is of course true of other affections, but in tuberculosis this is very important because of the great variability in the treatment of this disease.

In the present day, when surgery is adding so many workers to its ranks in all communities, the treatment of tuberculosis joint disease should receive its fair share of attention. Granting that the treatment is conducted along similar lines, it should be more successful if carried out in the home territory of the patient, where fresh air and sunshine are more abundant than in the hospitals of crowded centers. The treatment, however, cannot be intelligent until the pathological anatomy of the disease is clearly understood. The slowly but progressively infiltrating nature of the disease makes it less amenable to operative surgery than the ordinary pyogenic diseases of bones and joints, and, although selected cases are benefited by operative interference, the protective treatment is required in the large majority. In the latter treatment the prevention of deformity and the correction of it, when present, form a large part of the task. This task can be successfully carried out only when the nature of the deformity is clearly understood from the point of view of pathological anatomy and perverted function. The points in the main to be decided are—

1. Is the deformity due to muscular spasm?
2. Or to muscular spasm plus a real nutritive shortening of the muscles?
3. To what extent are the capsule and fibrous structures around the joint responsible?
4. How much change of form has the bone undergone, either from destruction or from change of form due to weight bearing upon a structure weakened by disease?
5. Is there actual bony union between the joint surfaces?

It may be broadly stated that where rest and extension are faithfully employed, deformity due to No. 1 will be overcome entirely, that due to No. 2 much lessened, and that due to Nos. 4 and 5 will be unchanged. No. 1 exists alone, but is frequently found combined with Nos. 2, 3, 4.

The more muscular the spasm upon attempted movement, the more painful and acute the disease. The more completely the joint is fixed, either by fibrous change or by ankylosis, the less pain there is upon attempted movement. These conditions must be made out by careful manipulation. Anesthesia is rarely necessary for differentiation. It is important, too, that we should be able to say to what extent bone destruction has advanced. It is not always possible to do this from the study of the symptoms or from the deformity alone.

Under the head of chronic traumatic arthritis are included those cases of foreign bodies in the joints above alluded to. A painful knee, due to the strain upon it caused by flat-foot and the chronic strain of the sacro-iliac joints, also belong here. Hallux valgus furnishes us with the most familiar example of this group. Chronic strain, in this sense, means that the static demands made upon a joint are more than it can stand.

It is well to remember that the tabetic joint may occur long before the other symptoms of tabes are well marked. The absence of pain in a large and distorted joint characterizes the neuropathic arthritis.

Mention has been made of disease of the bone with joint symptoms requiring differentiation from primary joint infections. Here the importance from a therapeutic point of view is very evident.

There is another class of peri-articular affections which sometimes cause a good deal of confusion. Bursitis, traumatic or infectious, has frequently been mistaken. Inflammation of the large bursa lying beneath the deltoid muscle, for instance, leads to a very definite group of symptoms and furnishes an excellent example of the difference between extra- and intra-articular trouble.

In primary joint inflammation all movements of the joints are usually interfered with. Some movements of course may be more limited than others. In the bursa just referred to, certain movements of the joint are neither painful nor restricted, but abduction and inward rotation of the arm are usually both painful and limited.

It is needless to say that numerous bursæ surround most joints, and some of these bursæ communicate with the synovial cavity of the joint.

Inflamed lymphatic glands furnish another cause of limitation of joint movement. Suppurating external iliac glands will cause marked limitation of the movements of the hip-joint. Inflamed cervical glands, lying underneath the sternomastoid muscle, limit, in a marked manner, movements of the cervical vertebræ.

In interference with joint function due to inflamed or suppurating glands, or, speaking more broadly, in joint disability due to abscess from any extra-articular cause, joint motion is restricted only in certain directions. As a key to the location of the inflammatory condition it may be said that, in a general way, the movement restricted will be the one that makes tense the muscle overlying the inflamed structure. In the neck, for instance, movements of the head away from the side upon which the glands are situated, will stretch the sternomastoid over the inflamed glands, and cause a spasm of the muscle on the affected side.

Regarding the use of the *x*-rays in the diagnosis of joint disease: The radiograph should be resorted to only after the clinical evidence has been exhausted, for the *x*-rays, although a very important factor, is only one, and too much stress cannot be laid upon the fact that here, as in pathological histology, an opinion should be given only after the history and clinical picture have been fully considered.

In acute joint disease the radiograph will generally give negative evidence; even in acute bone disease this is usually true. However, joint symptoms may supervene in the course of chronic bone trouble, and here the radiograph will furnish valuable assistance. Considerable experience is necessary for the correct interpretation of a radiograph of a bone, and this implies an intimate knowledge of bone pathology. The radiograph is but a shadow of the pathological condition.

Bone destruction and bone production as seen on the plate do not say which process has produced them, and our knowledge of pathological processes tells us the rest.

Tuberculosis is early only an infiltration and cannot always be detected. Later, its picture is that of destruction.

The characteristic feature of pyogenic osteomyelitis is destruction with sequestrum formation, plus, in chronic conditions, the production of new bone, mostly from the periosteum. Syphilis is both destructive and productive. Sarcoma is destructive. Neuropathic disease is characterized, in the late stages, by destruction of bone, as well as by osteophytic production.

# GANGRENOUS APPENDICITIS--REPORT OF A CASE\*

By G. G. BALCOM, M. D.

LAKE WILSON, MINN.

My chief object in submitting a report of this case is to bring before you the fact that the clinical symptoms are not always indicative or sufficiently well-marked to properly guide the clinician in making a correct diagnosis, nor can he estimate the exact pathological condition in these cases by the usual clinical manifestations which nature so kindly throws out in other acute inflammatory processes that take place in the intestines.

Ernest L.; age 45, large, robust, muscular fellow, of more than ordinary vigor.

I learned that the previous summer he had had an attack of vomiting, with sharp, cramp-like pains radiating from the umbilicus in every direction over the abdomen. He had no physician at the time, but since that time he has been much troubled with constipation, for which he had taken the ordinary home remedies.

The attack that I wish to describe began some time in the middle of the week with griping and intermittent pains all over the abdomen, but centering and giving most trouble in the right iliac fossa. He had taken such laxatives and other remedies as his wife and the neighbors had prescribed, and had remained about his work on the farm until Saturday night, when the pains became so violent that he was compelled to take to his bed, and at 11:30 that evening I was called. The most prominent symptom which presented itself when I first saw him was the pain and swelling in the right iliac fossa. The swelling was pronounced, as were the tenderness, and the rigidity of the abdominal muscles extending to the umbilicus.

The temperature was 100.4°; the pulse, 80; and the tongue was slightly coated. He had been vomiting and there were slight evidences of obstruction.

I ordered large quantities of soap-suds to be given as an enema, and large quantities of fecal matter and flatus passed. This gave pronounced relief, and I prescribed belladonna and applied menthol locally.

I made a diagnosis of appendicitis and told him that I would see him in the morning. The next morning the symptoms were changed, and I found a normal pulse and normal temperature. There was very little pain, and the tenderness and swelling had subsided very markedly, besides flatus was passed with less difficulty. He had vomited large quantities of bile during the

early hours of the morning and since then had slept and rested nicely. I told him that I deemed an operation necessary, to which he readily assented, and I set about to make arrangements to take him to Minneapolis. We have no trains out of our town on Sunday and it was necessary for me to wait until Monday morning before I could move him. He was moved to the city on a cot. His temperature and pulse were normal, and he had but one vomiting attack during the trip. He was placed in the Swedish Hospital and in the care of Dr. F. A. Dunsmoor, who operated upon him the following morning. The hospital record shows that his temperature was normal, and that the tenderness and swelling were as one would expect to find them in a case that was recovering from an attack of appendicitis.

The hospital record of the surgeon reads as follows:

Urine: sp. gr., 1030; reaction, acid; albumin,

Urine: sp. gr., 1030; reaction, acid; albumin, a trace.

Microscopical findings: granular casts, epithelial cells, and leucocytes. Leucocyte blood-count, 23,000, showing pus.

The report says further:

"On opening the abdomen I found a gangrenous, perforated appendix, an ash-grey gangrene of the mesentery, for six inches of the small intestine, and as far as could be reached to the cecum, with at least one pint of serous fluid, making a general anasarca of the posterior-mural wall of the peritoneum and that around the cecum and ileum. The gangrene so weakened the head of the cecum and the end of the ileum that they were leaking fluid into the abscess."

The technic of the operation I will not attempt to describe. It is enough to say that the patient died March 26th, two days after the operation.

This is the record of the case as I saw it. Let me ask—

By what methods and at what time could the clinician have determined the approach of the necessarily fatal pathological condition which presented itself at the operation?

Do these gangrenous cases always have loss of sensibility to pain after the acute symptoms have subsided? Are a normal temperature and pulse consistent when so serious a condition obtains in the abdomen?

\*Read before the Southwestern Minnesota Medical Society, January 15, 1909.



Could any surgeon have told that such a condition would be found?

Is appendicitis always a surgical disease, and, if not, by what methods are we to differentiate the surgical from the medical?

I appreciate the fact that I am not asking original questions; but acute inflammatory processes are common in the large and small intestine and they seldom become so serious as to demand surgical treatment, and when they do,

are not the symptoms well defined? How are we to know when we have a gangrenous case? These are the answers that three prominent writers give: Tyson says, "Finally, too much stress cannot be laid upon the fact that there may be gangrenous appendicitis in the presence of normal temperature." Anders says, "Gangrenous appendicitis is most deceptive," and Butler says, "A gangrenous appendix may be present with a most misleading mildness of symptoms."

## DEFORMITIES RESULTING FROM BURNS\*

By J. C. WHITACRE, M. D.

ST. PAUL

In presenting this case I have nothing new to offer as far as treatment goes, but, considering the extent of surface burned and the severity of the burns, I think it remarkable the little fellow didn't succumb to his injuries.

M. G. was eight years old when this occurred, which was on the 23d of March, 1907; he is of Italian parentage.

He was sitting on an extension-table on which there was a large glass lamp, when one of the supports fell out, letting him down and pinning his left thigh down to the floor in such a manner that it was impossible for him to extricate himself, and being alone in the house he lay in burning oil until his parents, who were next door, heard his screams and came to his rescue. By that time he had received burns of the third degree on his left hand and forearm, left ear, left side of head, and left side of face, second degree burns on the left arm to the shoulder, right hand and forearm, forehead, nose, both eyelids, and a very small bleb on the right cornea, first degree burns on his neck, back and breast. On the second day the left side of the face and head and the left hand and forearm presented an ashy-grey eschar. A constricting band encircled the left forearm, and as the skin appeared dead I incised the constriction, and this apparently relieved the circulation.

On the sixth day pus was present under the skin of the face, head, both hands, wrists, and forearms.

On the eighth day the skin commenced to slough off from the face, head, the finger-tips to the shoulder.

On the fifteenth day I opened an abscess on the left thigh just above knee, probably due to

a bruise with later metastatic deposit of pus at this spot of lowered resistance. It healed promptly. The right side of the face covered with new skin.

On the twenty-first day a corneal ulcer on the right eye developed. It was impossible to use any pressure with bandages to keep the fingers, wrist, or elbow straight, as they would cause too much sloughing and pain.

On the thirty-seventh day a corneal ulcer on the left eye developed. This was due to pus continually getting into the eye on account of his inability to close the lids.

On the thirty-eighth day I succeeded in getting the right hand straight.

On the fifty-third day the left elbow at a right angle.

On the one hundred and eighty-second day the skin on the left wrist was complete for the first time.

On the one hundred eighty-sixth—one hundred ninety-fourth day straightened a right-angled contraction of the left elbow with an adjustable splint. The deformity re-occurred three or four times, and the splint was worn for some time.

On the two hundred fifteenth day the wrist and face were full of pus again, and the left hand straight, except the little finger.

On the two hundred twenty-eighth day the wrist and face were covered with healthy granulations again.

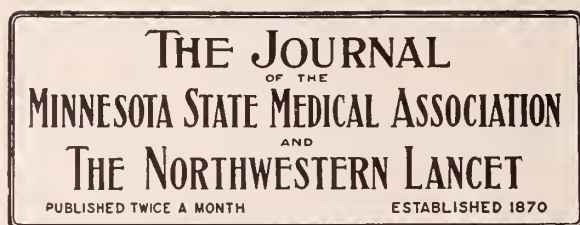
On the two hundred forty-eighth day the skin on the face was complete for the first time.

On the two hundred fifty-fourth day the face started to suppurate again.

On the two hundred seventy-seventh day the skin on the wrist was broken down again.

On the three hundred twenty-fourth day the case was dismissed.

\*A clinic, presented at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



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APRIL 15, 1909

### THE NEW STATE ROSTER

Secretaries of County and District Societies are requested to send at once all additional names with their dues to the Secretary of the State Association. It is necessary to have them in promptly if the names are to be included in the new State Roster, which it is desired to publish in the first of May issue of THE JOURNAL.

### THE NATUROPATHIC MEDICAL BILL

The legislature defeated by a vote of 83 to 24 the attempt to legalize a lot of nondescript individuals whose evident desire it was to graft the public under the sanction law. The vote demonstrates that the majority of the legislators are amenable to reason and do not propose to foist a lot of ignorant individuals into the medical profession to the danger of the public health and the lowering of the whole profession.

The medical members of the legislature are to be congratulated upon the successful issue of their endeavors. More particularly is the profession of the state indebted to Dr. J. A. Gates, chairman of the Public Health Committee for the valuable work he did in consummating the result.

### THE LONDON LANCET

A recent number of the London Lancet contains the obituary notice of its late editor, Thomas Wakley, the fourth member of that family to hold the position of editor.

We believe that we are correct in stating that the London Lancet is one of the oldest, if not quite the oldest, medical journal in the English language, which has been published continuously since its establishment. It was founded by a Thomas Wakley who, in due time, turned the journal over to his son, James G. Wakley. Twenty-two years ago this son died, and was succeeded in the editorial chair by his elder brother and his nephew. These two men continued in charge for twenty-two years. Two years ago, at the advanced age of eighty-six, the father died, and now the last adult member of the family has been suddenly called away, at the age of fifty-eight. Thus, through its long and honorable career, the Lancet has been wholly in charge of these four members of one family. The only survivor of the late editor is an infant son.

Even from his student days, Mr. Wakley appears to have outlined his course with the idea of devoting himself to editorial work, and all the working period of his life was given to the interests of the Lancet. How excellent the results were is known to every student of medical literature. It is to be hoped that the young Wakley may live to be a worthy successor of his father in his devotion to the interests of medicine in general, and to the Lancet in particular.

### THE FIRST CLINIC AT THE STATE UNIVERSITY HOSPITAL

The first patient was admitted to the Minnesota University Hospital on March 22, 1909, and the first clinic was given on March 27th by Professor James E. Moore, assisted by Professor A. T. Mann. There were present Professors Charles L. Greene and S. Marx White, Dr. Dredge, of Sandstone, Dr. Fred Poppe, of Minneapolis, and twenty-three members of the senior class. Dr. Moore stated that this clinic was an epoch in the history of medical education in the State of Minnesota, and related some of the experiences of the older members of the faculty who for twenty years had been holding clinics for the University, furnishing their own material, hospital facilities, and amphitheatre. He stated that in one year the Elliot Memorial Hospital would be completed on the new University campus, and predicted that within a decade this would be the center of a group of the finest clinical hospitals in the United States.

The first patient operated upon was from Marietta, Minnesota, and was a case of recur-

ring appendicitis in which the appendix was outside of the peritoneal cavity behind the ascending colon. An opening was torn through the peritoneum behind the cecum at the end of the band of longitudinal muscular fibres, through which the appendix was drawn and removed.

The second patient was from Sandstone, Minnesota, and was a case of tuberculosis of the shoulder-joint with extensive cold abscesses in the surrounding soft parts. The abscesses were emptied and curetted. The joint was opened, pieces of necrosed bone and cartilage removed from the head of the humerus, and the whole joint thoroughly curetted, after which it was filled with Moorhoff's bone-wax and closed.

### CONSERVATISM

It is well never to underestimate conservatism or the conservative mind, but it is equally well not to forget that conservatism does not always mean to *conserve*, nor does the constitutionally conservative mind always gain the best ends. A recent act of conservatism shows, we think plainly, the dangers of a constitutional (in corporations) dread of the new.

Dr. Burnside Foster, of St. Paul, is reported, in the daily press, as presenting at a recent gathering of life insurance presidents in New York City, a plan for holding regular, say, every five years, medical examinations of their policy-holders. It is said the presidents of the insurance companies did not receive the suggestion with much favor, because of the expense and also because the policy-holders might not take kindly to a medical examination.

The man who cannot see that the cost of such an examination would be saved over and over again, has little faith in the value of the proper care of one's health; and the man who thinks that a policy-holder is not just as anxious to prolong his life as any insurance company is to have it prolonged, has, to say the least, a queer notion of men's motives. But a compulsory examination is not essential to such a plan. Simply say to the policy-holder, "We want your life prolonged, and therefore we want you to let our physician examine you and suggest to you how to prolong your life." How many men would refuse such an examination? Probably some *conservative* men would.

The same blind objection prevents medical inspection of public school children, and the arguments against inspection show such crass ignorance of its value and the urgent need for it, and this on the part of rather intelligent men, that

one wonders how the human mind—shall we say the *conservative* mind?—is really constituted.

A thorough medical examination of every individual once in five years would, at least in a generation or two, show results in an increased longevity that would surprise the world; and if the insurance companies were wise enough to adopt Dr. Foster's advice, even as a purely business matter, such an examination might become well-nigh universal.

But conservatism sees it otherwise, and we in America will retain our very low estimate of human life, which is about the cheapest thing in America.

### MEDICAL LEGISLATION

THE JOURNAL-LANCET has already had occasion to refer to a bill recently defeated in the legislature, which had for its object the licensing of certain so-called schools of medicine. It is unfortunate that, however honestly the opposition of the medical profession to such a measure has been conceived, and however diplomatically it is expressed, the public will not believe that there is not some element of jealousy in it. The public has not seen, and is not likely soon to see, that whatever of charity is done in medicine is the work of the medical profession as at present constituted, and that, almost without exception, the members of the new so-called schools of medicine are actuated solely by a desire to separate the suffering public from their money as rapidly as possible. And even though the bill recently before the legislature, is defeated, the struggle is not ended, but simply postponed to another session.

There is always a certain element in the community that desires something new in medical treatment, and prefers that which has an element of mystery rather than that which appeals to common sense and reason; and new beliefs will arise as rapidly, or more so, than new legislatures convene, so that, like the poor, we shall have always a so-called new school of practitioners with us.

Whether a medical-practice act can be drawn and passed which will be wholly satisfactory to the general public, may be doubted, but it is certain that no bill which in any way emphasizes the differences between so-called schools of medicine, will suffice. Nevertheless, it is essential that some standard be applied to every applicant for a license to treat a disease in any way. Possibly this end might be reached by limiting the examination to such subjects as



anatomy, physiology, pathology, chemistry, hygiene, and diagnosis, or, at least, to such subjects as do not directly involve the element of treatment, the idea being that any man who has a thorough preliminary training and a full subsequent course in the subjects mentioned, will be a safe man to treat disease; and, on the other hand, that no man who has not fulfilled these qualifications can be trusted to practice on other men.

The state makes no provision for qualifying men to practice law in special ways, but no one is permitted to take up personal-injury cases or police-court work until he has passed an examination in the general practice of law. A similar condition of affairs should prevail in medicine.

One trouble with the public is that it looks on the medical course merely as a means of acquiring the technic of curing disease, forgetting the important fact, which is perhaps rarely appreciated except by professional men, that the real difficulty in medicine is not in treatment, but in diagnosis, and that, however simple one's method of treatment may be, there is no royal road to the diagnosis of disease.

### THE LAST STAND

The recent receipt of what purports to be a reproduction of an advertisement from a Nebraska medical journal, containing material unfavorable to Dr. Simmons, the Secretary of the American Medical Association, shows to what extent the enemies of the present policy of the Association are willing to carry their opposition. It is quite in keeping with their method that this communication should appear without signature, but it requires no great stretch of the imagination, and we doubt if we are doing injustice to anyone in laying it at the door of certain proprietary manufacturers of this country. Having failed in their attempt to gain control of the Association, and having failed to throw discredit on the work of the Council of Pharmacy and Chemistry, they have now apparently set out to try to blacken the character of Dr. Simmons. It is evidently their thought that if Dr. Simmons can be displaced, his successor will be more lenient toward the manufacturers of their class of goods.

Whether Dr. Simmons, as a private physician, lived fully up to the standard which the Association now sets for its members, we do not know, but, certainly, if anxious to ascertain the truth, we are not likely to go to men using such methods as the above to learn it. As to his public record as Secretary of the Association, how-

ever, the members of the profession are very well informed, and we doubt very much if anything his enemies can say will for one moment obscure the fact that, under him as executive officer, the Association has advanced in every way to an almost phenomenal degree. We feel safe in asserting that in everything that pertains to the good of the medical profession in the United States, Dr. Simmons has been a leader, as well as a most efficient executive officer, and this latest attempt at personal abuse is not likely to further the cause of its authors. Until the Association has seen cause to be dissatisfied with the growth numerically, as a unified organization, and as a force for good in everything that pertains to its highest welfare, Dr. Simmons is likely to be retained as long as he is willing to grant his services.

### FIGURES

There is a legend that figures won't lie—at least this is one-half the legend; we prefer not to deal with the other half, and so shall call attention to an instance of wrong figures. Minneapolis has now in session a high-grade water commission whose object is to solve the question of a supply of pure drinking-water for Minneapolis. A gentlemen recently appeared before this commission to show by official records that deaths from typhoid fever are most numerous in those parts of the city where there is the largest number of wells. Of course, the natural inference is that typhoid in Minneapolis is not caused by the river water, but by the well water. Why not? Dr. Hall, the City Health Officer, steps in, and shows that the two wards selected contain practically all of our hospitals, and, further, that the death-rate from typhoid in these wards, after deducting the deaths in the hospitals, is rather below the normal and so the convincing figures tell another story, and may be made to prove that well water is just the thing to drink in a city.

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## REPORTS OF SOCIETIES

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### STEARNS-BENTON COUNTY SOCIETY

The Society met in St. Cloud, March 23, with ten members present.

Papers were read as follows: "Frost Bites," by Dr. August Kuhlman, Melrose; "Diagnosis of Diseases of the Chest," by Dr. William Friesleben, Sauk Rapids; "Vaccination," by Dr. W. L. Beebe, St. Cloud; "Smallpox Diagnosis and

Differential," by Dr. M. J. Rand, Sauk Rapids; "Treatment of Strictures," by Dr. J. C. Boehm, St. Cloud.

A thorough discussion followed the reading of each paper, and especially was this true following the paper on vaccination, each member expressing his ideas as to how long vaccination renders immunity to smallpox.

The next meeting will be the annual meeting, April 15, 1909.

J. C. BOEHM, M. D., Secretary.

#### HENNEPIN COUNTY SOCIETY

The monthly meeting of the Society was held April 5th, with 55 members present, Dr. J. D. Simpson, president, presiding.

Dr. J. A. Watson reported for the committee in regard to an official collector for the Society: That the matter had been investigated as far as the committee could investigate it, and had come to the conclusion that Mr. H. M. Stocking, manager of the Physicians' and Surgeons' Association, was better fitted for the position than anyone else that they had found. A letter from Mr. Stocking, soliciting the consideration of the Society in his behalf, was read; also his rates for collections, as follows:

No collection, no charge; payments of \$25 or under, 20 per cent; minimum fee, 50 cents; payments of \$25 to \$50, inclusive, 15 per cent; payments over \$50, 10 per cent; accounts outside of Minneapolis, 33 1-3 per cent; accounts by suit or garnishment, 50 per cent; above charges are on the amounts collected each time and not on the amount of the bill; accounts withdrawn after being worked upon will be charged above rates.

Dr. C. H. Bradley: It seems to me that it would be a good plan to leave the matter with the committee for the present, and that at the next meeting they bring before the Society a definite agreement of some kind to be signed by the firm or collection agency, and by the Society.

Dr. J. W. Bell: I confess I think the rates mentioned are excessive, if he expects to do the work for the entire Society.

Motion carried.

Dr. Chas. J. Spratt presented a case of "My-cosis of the Tonsils."

Dr. J. W. Bell: The executive committee have had under consideration for some time the question of an investment of the funds of the Society. I move that the sum of \$500 be turned over to the trustees for investment. Carried.

Dr. C. H. Bradley read a letter from J. M.

Quilty, secretary of the Publicity Club of Minneapolis, in which he sought to establish coöperation between the club and the Society. To that end he asked that some member of the Society be selected to represent it at the meetings of their executive committee, and give them the benefit of his counsel and advice.

Dr. J. W. Bell: I move that the chair appoint a member to act on this committee. Carried.

The Censors recommended the following for membership, and the same were elected: S. J. Aspelund, Martin Aune, John Butler, C. A. Dawson, C. L. Hagan, Julius Johnson, Nimrod A. Johnson, E. Moren, Troy S. Miller, J. E. O'Donnell, Emanuel Oberg, R. J. Phelan, Fred H. Poppe, Jos. O. Post, Henry W. Quist, J. O. Taft, Theo. Tennyson.

Dr. J. P. Sedgwick presented a case of progressive type of special muscular atrophy in a child eight months old.

Nomination of applicants to membership as follows: George A. Kohler, Alfred L. Lalinerte, William H. Hallowell, Falk Tennyson, Edward J. Clark, R. M. Pederson, George F. Roberts, H. N. Meleck, Pearl M. Hall, J. Leslie Stone, William B. Roberts, A. E. Ofstad, H. H. Leavitt, Edward E. Austin, Hugh J. Tunstead, Chas. A. Erdmann (for reinstatement), Julia M. Jacobson-Keats, W. C. Hanscome, J. C. Sessions (for reinstatement), Norman M. Smith, C. L. Rogers, Olaf Krogstad, C. O. Maland, James H. Burgan.

Dr. H. Miller, Dr. H. W. Noth, and Dr. H. O. Collins were elected upon letters from other societies.

The following papers were read:

"A Demonstration of the Pasteur Treatment and the Diagnosis of Rabies," by Dr. Orianna McDaniel, the physician in charge of the State Pasteur Institute; and "Notes on Rabies," by Dr. Chas. E. Cotton, the well-known veterinary surgeon.

Dr. Geo. C. Barton: I am not capable of discussing these papers, but I think papers of this kind would be of great advantage to the public, and the chief ideas of the papers should be given to the newspapers to be published. I make a motion to that effect. Carried.

Dr. Emil S. Geist: I should like to ask what percentage of these cases come from Hennepin County?

Mr. McDaniel: A very high percentage.

Dr. C. B. Wright: I would like to ask whether there has ever been a case of rabies communicated from cow's milk?

Mr. McDaniel: As far as I know, there is no record of any such case.

Dr. Bryant: A boy about six years old was patting a great Dane dog that was very peaceful. The dog turned around and cuffed the boy's face with his paw, and scratched down the face, tearing the lip. The little boy was brought to my office. I applied the usual anesthetics, and the wound healed up all right. The boy developed symptoms of hydrophobia, and died. Upon investigation, it was found that the dog, two or three days after scratching the boy, lay down and died. Subsequent to microscopic examination, and examination of the meninges, it proved to be hydrophobia. The first symptom in the boy was that he refused to drink water. He could not swallow it. He then developed a mild delirium in which he saw things. He developed some rigidity of the neck muscles; his jaws set, and he died without much fever. His pulse increased, I believe. There was not much constitutional change; he just simply refused to drink water, and died. There was a post-mortem. No inflammatory condition.

Dr. Barton: How would you account for infection in that case? It was done by a scratch of the paw, and not with the jaw.

Dr. Bryant: The dog licked his paws, and the saliva was transferred from the mouth to the paws.

Dr. Charles A. Read: How late in the course of the disease can treatment be given safely?

Dr. McDaniel: We advise that the patient come to us as quickly as possible after being bitten. At the end of two weeks is very late, but we treat them then.

Dr. J. W. Bell: What is the number of deaths throughout the state since the opening of the Institute?

Dr. McDaniel: Three within the state, but only one of the cases received treatment.

Dr. W. H. Aurand read a paper on "The Treatment of Typhoid Fever."

Dr. Bissell: I think there is one point which should not go unchallenged,—in reference to his use of strychnia. Cases under strychnia treatment show a startling heart collapse, whereas those treated by digitalis, taken in small doses, show no such results.

Dr. Wanous: We all can see this is a self-limited disease, and the symptoms that manifest themselves, or the principle that we ought to deal with, is the matter of intoxication. The doctor says he does not believe in elimination, particularly in the beginning of the condition.

I believe, if we had a condition of toxemia, that the treatment resolves itself strictly into a condition of elimination. The opening of the bowels and the elimination through the skin and kidneys are three essential points, and anything that can be done along this line will always benefit our case.

Dr. E. R. Green: Is there any objection to feeding typhoid patients such diet as beef, eggs, and fruit?

Dr. Aurand: I think that we should look out for elimination. There are some cases we should use a cathartic on. I don't think we should continue it right along. There is no objection such as Dr. Green mentioned in regard to the diet.

Dr. McDaniel: I think the Society ought to express a vote of thanks to Dr. Cotton for his paper. A motion to that effect was made. Seconded and carried.

C. H. BRADLEY, M. D., Secretary.

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## NEWS ITEMS

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### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. W. H. Pope, of Nebraska, has located at Mound.

Drs. Nelson & Holte, of Crookston, have dissolved partnership.

Dr. Arthur Nichols has moved from Bowbells, N. D., to Fargo, N. D.

Dr. E. G. Renner has moved from Northville, S. D., to Groton, S. D.

Dr. N. D. Kean, of Coleraine, has gone to Chicago for special work, mainly in surgery.

Dr. W. W. Lewis, of St. Paul, was married last month to Miss Barbara Haug, of Duluth.

Dr. O. T. Shering, of Fergus Falls, has gone to Europe for four months of special work.

Drs. J. H. James and E. W. Benham, of Mankato, have become partners under the name of Drs. James & Benham.

Dr. B. F. Lockwood, of Chamberlain, S. D., has moved to Yankton and formed a partnership with Dr. Tower, of that place.

Dr. E. F. Horst, of St. Paul, died last month from the effects of chloroform which he was taking for the relief of neuralgia.



"Tag day" at Austin produced over \$1,000, which is to be used to buy an ambulance for the city. Well done for a small city.

Dr. A. V. Brown, who has been doing temporary work at Neche, N. D., for Dr. Donovan, will locate in Winkler, Manitoba.

Dr. James A. Rankin, of Jamestown, N. D., has retired from general practice, and will devote himself to consultation work exclusively.

Drs. Weidow and Mork, of Worthington, have completed extensive improvements in their hospital. Two trained nurses conduct the hospital.

The superintendent of the St. Paul city schools has recommended to the Board of Education that medical inspection be adopted in the schools.

The antituberculosis society of Duluth has employed Mrs. Florence Lee, an experienced nurse, of Chicago, to assist in carrying on the work of the society.

Dr. William C. Van Damme, of Minneapolis, who left in a saloon a new-born baby in a suitcase, has been convicted, and will spend another term in the penitentiary.

Dr. A. F. Groves, of Brainerd, is in Pennsylvania to attend the 60th wedding anniversary of his parents. He will also do some post-graduate work before returning.

Dr. W. T. Grenfell, the medical missionary for Labrador, has been in the Twin Cities on a lecturing tour. He received an exceedingly warm reception in both cities.

Dr. W. R. Morrison, of Bemidji, has sold his practice to Dr. Sanborn, of Faribault. Dr. Morrison, after doing some post-graduate work in Chicago, will move to Billings, Montana.

The first clinic in the hospital of the State University, was held last month, and may be considered another historical mile-post worthy the notice given it in our editorial columns.

Dr. Herman F. Ratte has moved from Creston, S. D., to Rapid City, S. D. Dr. Ratte was a member of the late South Dakota legislature and did some efficient work along medical lines.

The Naturopathic bill met an overwhelming defeat in the Minnesota legislature, as justly deserved, for so loose a bill probably was never presented to an intelligent body of law-makers.

It is contrary to our practice to report malpractice suits brought against physicians; but

we often feel like reporting the results of such suits, which is, practically universally, utter failure.

Dr. Leon Boyd, of Alexandria, was married last month to Miss Lita Raiter, also of Alexandria. Dr. Boyd will spend his honeymoon in Philadelphia, incidentally doing post-graduate work.

The Yankton (S. D.) District Society held its quarterly meeting last month at Yankton. Papers were read by Dr. H. E. French, Vermillion; Dr. C. C. Gross, Yankton; and Dr. James Roane, Yankton.

A German farmer, self-styled "Dr." Breit, who lives at Wood Lake, is posing as a successor to "Dr." Till. It is said that he already has from twenty to sixty patients a day, and has had to move into larger quarters.

Dr. John Jackola, of Duluth, has gone to Europe to take post-graduate work in surgery. He will spend most of his time in Berlin and Vienna. Dr. J. R. Manley, a recent graduate of the State University, will have charge of Dr. Jackola's practice during his absence.

The Pioneer Press of St. Paul is publishing, at the head of its editorial columns, "Daily Health Hints," each about twenty lines in length. The "hints" are not technical, but they summarize a large amount of valuable information which people ought to know. It is an admirable work.

The Hennepin County Medical Society holds its annual meeting on Monday, April 19, and extends an invitation to all medical men outside of the city. Dr. Victor C. Vaughn, of Ann Arbor, Mich., will make an address. The meeting will be held at the Donaldson Tea-Rooms at 6:30 p. m. Tickets to the banquet, \$2.

The Devils Lake (N. D.) District Society met in Devils Lake last month. The following officers were elected for the current year: President, Dr. Arthur Horsman, Devils Lake; vice-president, Dr. J. W. Warren, Leeds; secretary and treasurer, Dr. Maude R. Williams, Devils Lake; delegate, Dr. W. D. Jones, Devils Lake.

In our last issue we referred to the special course in Charities and Corrections at the University. The course is given in the Economics Department, rather than in the Medical. Dr. Eugene T. Lies, General Secretary of the Associated Charities of Minneapolis, gives a third of the lectures, Dr. J. L. Coulter, of the Economics

Department gives a third, and the remainder are given by outside men. About 52 lectures will be given during the spring at the University Library building. They are given at 9:30 in the morning on Mondays, Wednesdays, and Fridays.

The Gallatin County Bar and Medical Associations of Montana give an annual joint banquet at Bozeman, the meeting last month (the second annual banquet) was a great success. As evidence that it might well be, we quote some of the toasts that were spoken to: "A Free Lance," Hon. John T. Smith; "The Relation of Law to Medicine," Attorney Luce; "Medical Witnesses," Attorney Law; "Humorous Medicine," Dr. Ragsdale; "The Medicine of the Law," Judge Cheadle; "A Dissection," Dr. Boyle; "Stenographers—Female and Otherwise," Attorney Holloway; "The Leavings," Attorney Hartman; "Any Old Thing," Dr. Campbell; "Fire in the Dark," Judge Armstrong; Etc.

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

PRACTICE FOR SALE

I am going to the coast, and will turn over my practice to the purchaser of my office building, a good-paying property; part cash and part on time. Practice will pay \$3,500; in a manufacturing, railroad-division town, with good farming community, 100 miles from Twin Cities. Address M. S., care of this office.

PRACTICE FOR SALE

Practice that pays \$3,500; can be increased by \$1,000 or more; established 15 years; in growing county-seat of 1,200 inhabitants; 95 miles from Twin Cities. Practice goes to purchaser of my 14-room residence, with barn and large shady lots, in choice residence section.

which cost me \$6,000. Will sell for \$5,000 (\$1,500 cash; balance \$50 monthly), and remain long enough to introduce successor. Address L. M., care of this office.

PRACTICE FOR SALE

A well-established practice in the best town in South Dakota; collections unsurpassed; fees the highest; and for a Homeopath there is no competition, as the subscriber is only Homeopath within 60 miles. Good reason for selling, and full information will be given anyone wanting to establish himself in practice where good money can be made from the start. Address G. A., care of this office.

MICROSCOPE WANTED

I want to buy a good second-hand microscope. Send description and price to S. N., care of this office.

PRACTICE FOR SALE

An unopposed \$3,000 practice, with real estate and small drug-store, will be sold for \$3,000. Investigate this. References are expected and will be given. Address Medicus, care of this office.

PRACTICE FOR SALE

In an Eastern Minnesota town of 1,000 mixed population. Practice pays \$4,000 a year. Will give good-will and introduce the physician who buys my hospital and office fixtures. Price and terms on inquiry. Best of reasons for selling. Address T. M., care of this office.

PRACTICE FOR SALE

One of the best \$2,500 practices in a county-seat town of 1,200 in northern Minnesota, with complete office equipment and driving outfit. Office contains x-ray, rolltop desk and Allison table. As I want to leave soon to accept another position will sacrifice the outfit for \$1,200 cash. Address F. P., care of this office.

*Physicians, Attention.*—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work.*—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JANUARY, 1909

STATE INSTITUTIONS.	Total Deaths of												
	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer
Fergus Falls, Hospital for Insane.....	7	3	1	1									
Rochester, Hospital for Insane.....	4	5											
St. Peter, Hospital for Insane.....	1												
Anoka, Asylum.....	2	1											
Hastings, Asylum.....													
Faribault, School for Deaf.....													
Faribault, School for Blind.....													
Faribault, School for Feeble Minded.....	5	1		2	1								
Owatonna, School for Dependents.....													
Stillwater, State Prison.....	2	2											
St. Cloud, State Reformatory.....													
Red Wing, State Training School.....													
Minneapolis, Soldiers' Home.....													
Totals.....	25	8	1	3	1						1		

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF JANUARY, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	6	1		1											
Anoka.....	3,769	4,053	4	1													
Austin.....	5,474	6,489	3			1											
Barnesville.....	1,326	1,566	*														
Bemidji.....	2,183	3,800	7			4											
Blue Earth.....	2,900	2,364	4	1													
Brainerd.....	7,524	8,1	16					1						2		3	
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	*														
Cloquet.....	3,074	6,117	3			1											
Crookston.....	5,359	6,794	4	1											1		
Detroit.....	2,060	2,149	1														
Duluth.....	52,968	64,942	69	8	3	13	1	5	1			1		1		4	
E. Grand Forks.....	2,077	2,48	3	1													
Ely.....	3,712	4,045	2												1		
Eveleth.....	2,752	5,332	4	1	1	1											
Faribault.....	7,868	8,279	11			2		1								1	
Fairmont.....	3,440	2,955	*														
Fergus Falls.....	6,072	6,692	11		1	1		1						2		1	
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	4													2	
Hutchinson.....	2,495	2,489	2													1	
Jordan.....	1,270	1,311	2														
Lake City.....	2,744	2,877	2														
Litchfield.....	2,280	2,415	3														
Little Falls.....	5,774	5,856	8			1									1	1	
Luverne.....	2,223	2,272	*								1						
Le Sueur.....	1,937	1,842	2														
Madison.....	1,336	1,604	1														
Mankato.....	10,559	10,996	12			1										4	
Marshall.....	2,088	2,243	2														
Melrose.....	1,768	2,151	1														
Minneapolis.....	202,718	261,974	268	39	4	37	2	14	3			2		1	3	16	
Montgomery.....	979	1,281	3	1	1												
Montevideo.....	2,146	2,595	2	1		1											
Moorhead.....	3,730	4,794	6	1		1									1		
Morris.....	1,934	2,003	2			2											
New Prague.....	1,228	1,419	2	1													
New Ulm.....	5,403	5,720	6													1	
Northfield.....	3,210	3,438	7													1	
Ortonville.....	1,247	1,612	*														
Owatonna.....	5,561	5,651	10			1		1						1		2	
Pipestone.....	2,536	2,885	2														1
Red Lake Falls.....	1,885	1,797	1														
Red Wing.....	7,525	8,149	8	3													
Redwood Falls.....	1,661	1,806	*														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	15		1											3	
Rushford.....	1,100	1,133	0														
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	12			3											
St. James.....	2,607	2,320	*														
St. Paul.....	163,632	197,323	180	17	1	16		9	6				2	3	6	12	
St. Peter.....	4,302	4,514	1									1					
Sauk Centre.....	2,220	2,463	3	1													
Shakopee.....	2,046	2,069	1														
Sleepy Eye.....	2,046	2,312	1			1											
So. St. Paul.....	2,322	3,458	7	1		1											
Stillwater.....	12,318	12,435	11	1												1	
Thief River Falls.....	1,819	3,502	*														
Tower.....	1,366	1,340	3														
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	11			2										2	
Wabasha.....	2,528	2,619	*														
Warren.....	1,276	1,640	2														
Waseca.....	3,103	2,838	1									1					
Waterville.....	1,260	1,383	3														
West St. Paul.....	1,830	2,100	1	1													
Willmar.....	3,409	4,040	*														
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	22	4				1								2	
Worthington.....	2,386	2,276	*														

\* No report received. Health officer not doing his duty.



REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF JANUARY, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	1														
Adrian.....	1,253	1,184	0														
Aitkin.....	1,719	1,896	0														
Akeley.....		1,636	*														
Alexandria.....	2,681	3,051	2	1													
Appleton.....	1,184	1,321	2														
Belle Plaine.....	1,121	1,301	2	1													
Benson.....	1,525	1,766	1														
Breckenridge.....	1,232	1,850	4														
Buffalo.....	1,040	1,124	*						1								
Caledonia.....	1,175	1,405	2														
Canby.....	1,100	1,505	1										1				
Cannon Falls.....	1,239	1,460	1	1													
Cass Lake.....	546	1,062	3	1										1			
Chisholm.....		4,231	11	1		2									1		
Clason.....	962	1,056	*														
Delano.....	967	1,023	*														
Fosston.....	864	1,000	1		1												
Frazee.....	1,000	1,146	1														
Glencoe.....	1,780	1,805	1				1										
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,428	2,055	4	1													
Hallock.....	805	1,014	*														
Hibbing.....	2,481	6,566	10	1	1			2									1
Jackson.....	1,756	1,776	2			1											
Janesville.....	1,254	1,205	1	1													
Kasson.....	1,112	1,049	2			1											
Kenyon.....	1,202	1,252	1														
Lake Crystal.....	1,215	1,231	*														
Lanesboro.....	1,102	1,041	*														
Long Prairie.....	1,385	1,256	0														
Madelia.....	1,272	1,290	*														
Milaca.....	1,204	1,319	1			1											
Mountain Lake.....	959	1,063	1		1												
North Mankato.....	939	1,129	*														
North St. Paul.....	1,110	1,400	*														
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	*														
Park Rapids.....	1,313	1,719	*														
Pelican Rapids.....	1,033	1,095	*														
Perham.....	1,182	1,366	*														
Pine City.....	993	1,092	1		1												
Plainview.....	1,038	1,140	*														
Preston.....	1,278	1,320	3	1													
Princeton.....	1,319	1,704	0														
Rush City.....	987	1,041	1														
Rushford.....	1,062	1,040	*														
St. Louis Park.....	1,325	1,491	2														
Sandstone.....	1,189	1,589	4			1		2									1
Sauk Rapids.....	1,391	1,552	1														
Scanlon.....		1,122	0														
South Stillwater.....	1,422	1,572	*														
Springfield.....	1,511	1,546	1														
Spring Valley.....	1,770	1,573	*														
Staples.....	1,504	2,163	2			1											
Two Harbors.....	3,278	4,402	*														
Wadena.....	1,520	1,868	3														
Wells.....	2,017	1,814	1														
West Minneapolis.....	2,250	2,530	2														
Wheaton.....	1,132	1,346	1			1											
White Bear Lake.....	1,288	1,724	*														
Winnebago City.....	1,816	1,553	3			1											
Winthrop.....	813	1,031	*														
Zumbrota.....	1,119	1,129	*														
State Institutions.....			25	8	10	3		1	1					1	6		
Other parts of State.....	1,012,328	1,085,886	697	61	1	85	1	23	5			5	1	6	17	27	4
Total for State.....	1,751,395	1,979,658	1582	163	27	190	5	63	15		1	9	5	19	32	83	8

160 Still births and premature births, not included in above totals.

\* No report received. Health officer not doing his duty.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## CONSERVATISM IN TRAUMATIC SURGERY\*

IN THREE PARTS—PART I

BY WALTER COURTNEY, M. D.

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BRAINERD, MINN.

Briefly defined, the term *traumatic* means, "pertaining to, or caused by, a wound or injury." Therefore, for all practical purposes, we may regard the terms *trauma*, *wound* and *injury* as synonymous.

The numerous injuries constantly occurring around us, constitute a large and important share of the work of the general surgeon. In the whole field of surgery there is no greater opportunity for conservatism, nor more necessity for it, than in this kind of work. I think it can be stated, without fear of serious contradiction, that during the last decade abdominal and certain specialized forms of surgery have received, to the hindrance of others, an undue share of attention. Traumatic surgery, though of equal importance, has not, I venture to assert, received anything like the same recognition; yet it is work that must be done by every general practitioner, as well as by the surgeon. As a consequence the young medical man of today is frequently better prepared to operate on an interval case of appendicitis than to treat a complicated fracture of the leg.

The appendix case will usually seek an older surgeon, while the fracture, being of an emer-

gency character, is very likely to demand the services of the younger man.

I am in the habit of saying to our internes, "The surgical dressing-room offers unexcelled opportunities for laying the foundation of an excellent surgeon." There the interne can observe all kinds of wounds and all phases of wound-healing. There, also, if he has keen intelligence, his perception of obscure complications may be sharpened. Again, it will furnish opportunities to demonstrate resource and ingenuity, by compelling every wound to heal in the shortest possible time.

As the field of traumatic surgery is such a wide one, I cannot do more at this time than briefly discuss a very few subjects, and trust that their consideration may result in a wider application.

### LACERATED, CONTUSED, INCISED, AND PUNCTURED WOUNDS

In introducing this subject, I anticipate it will, at first, impress you as a very elemental one; however, I can assure you that a personal experience with the work of numerous practitioners, during many years, has clearly shown the inability of a large number to competently care for this class of surgical work. I have frequent-

\*Read before the medical society of the University of Michigan, May, 1908.

ly seen dangerous infections that resulted in crippled limbs, amputations, and loss of life because of imperfect treatment, and I hope this fact may justify the subject. I might add, I hold it to be of such importance that, in my instructions to inexperienced local surgeons, there is nothing on which so much emphasis is laid as on the proper, primary treatment of these wounds, for the primary treatment is all-important.

*Lacerated Wounds.*—I will begin with lacerated wounds, as what I have to say of these, will in a measure apply to all. By the term *lacerated wound* we mean that the skin and, often, the underlying tissues have been torn by some force or instrument, to a greater or less extent. (This is not meant to apply to the cavities of the body.) The extent, in most cases, can be determined only by a careful and searching examination. In the production of this class of wounds it usually happens that more or less extraneous matter is carried within, most of which is infective and may find lodgment in the remotest part of the trauma. Frequently it is rolled up in the connective tissue. In addition to the laceration there may be more or less severe contusion and pulpification of the tissues involved. Taken altogether, it would be difficult to conceive of a more prolific field for the propagation of a rapid and dangerous infection.

Having considered the character and possibilities, or, rather, probabilities, of infection, in this class of wounds, it might be profitable to consider the inefficient and improper manner in which they are frequently treated, before discussing other and more efficient treatment.

The surgeon believing amputation unnecessary proceeds very much as follows: He shaves and scrubs the injured region; irrigates liberally, probably with a solution of bichloride of mercury; attempts to remove all particles of dirt, working protractedly and laboriously to that end. Believing his antiseptic efforts have resulted in securing a surgically clean wound he thinks he may very properly close it. He carefully trims the lacerated skin-edges and sutures all very neatly. The only unsettled question in his mind is whether drainage is necessary or not—after his painstaking antiseptic work. He has forgotten, or probably not considered, the innumerable germs that may lie buried in lacerated tissues, which his macroscopic eye could not perceive, or his antiseptic solutions reach and kill. What are the early results of such treatment? More than five times out of ten a prompt and severe infection will follow. What can remedy

it? Immediate opening of the wound to its furthest limit, and complete drainage, coupled with a large, moist antiseptic dressing. These, combined with adequate medical treatment, may avert further disaster, but not always. What are the later results if these steps are not taken in time or have proved inadequate? Any or several of the following may occur: extensive cellulitis and abscesses; lymphangitis and lymphadenitis; septic involvement of the tendons and their sheaths; sloughing of the skin and deeper tissues; periostitis, osteomyelitis, and necrosis of the bones; phlebitis occasionally, and, not infrequently, general septicemia. Should the patient escape both death and the loss of the member, he is, nevertheless, often permanently crippled, because of the impairment of function in tendons, ankyloses of joints, and loss of bone or other tissue. This is not an overdrawn picture, for I have seen all these things, not once only, but many times.

A recital of the history of a rather recent case may be interesting at this point. On May 11, 1907, a locomotive engineer, 41 years of age and in good health, sustained an abraded and slightly lacerated wound of the anterior surface of the right leg at a point between the ankle and the knee. He did not pay much attention to the wound until it became inflamed, and the leg began to swell. A local surgeon then treated the infected limb. The local infection subsided, and the wound was healed in about ten days. The patient did not recover his general health, however, and walking became difficult, as the hip was fixed and the thigh somewhat flexed on the abdomen. Passive attempts were made to overcome the fixity of the hip-joint, but without success.

The patient was admitted to our hospital June 17th, about five weeks after his injury. His general appearance indicated a condition of great debility. There were anorexia, evening rise of temperature, and a somewhat increased pulse-rate. When the patient lay on his back or side the thigh was flexed to about 45 degrees. Examination of the lungs and spine was negative. There was no fullness above or below Poupart's ligament, indicating psoas abscess. There was no history of appendicitis or signs of an appendiceal abscess. The history of the case suggested the rare possibility of suppurating retroperitoneal glands. When the fingers were placed above Poupart's ligament and deep pressure made, decided tenderness was elicited. A diagnosis was made of suppurating retroperitoneal pelvic glands, the result of the transmission of infection from the former leg-wound. For reasons



which I need not mention here, operation was delayed for two days; meanwhile an abdominal tumor appeared opposite to and inside of the anterior superior spinous process of the ilium. This raised the question of error in diagnosis. A small gridiron incision was made at McBurney's point. This disclosed that the appendix was normal and that the tumor was retroperitoneal, so the wound was closed. Another incision was made through the skin, above Poupart's ligament, and it was extended by blunt dissection, below the peritoneum, to a depth of fully four inches, before the abscess cavity was reached. Eighteen ounces of pus were evacuated, and tube-drainage was inserted to the bottom of the cavity. Within a few days the leg could be fully extended by the patient. Convalescence was steady and continuous and he returned home August 28th, a little over two months after admission to the hospital, and in excellent health. I saw him nearly six months afterwards. He was then the picture of vigorous health and regularly performing his duties as a locomotive engineer.

This case serves well to illustrate the dangerous complications attending the class of wounds we have been discussing, when treatment has been neglected or has proved inefficient. It was exceedingly interesting from the fact that the infection was not arrested at the inguinal glands, as it almost invariably is, but proceeded to the internal iliac glands.

We shall now proceed to discuss the proper and efficient treatment of lacerated wounds. At the outset, we may say that everything should be done under strict antiseptic precautions, hence there will be no need to repeat such advice. The region of the wound should, usually, be widely shaved. It should also be lightly but thoroughly scrubbed or cleansed with soap and water, and then irrigated with some non-irritating antiseptic solution. The whole area of the wound ought to be searched for particles of dirt or foreign matter. If there be hemorrhage it must be arrested, and if fractures or dislocations are present they should be reduced. Do not remove any tissue unless you are positive that it is necrotic. The next step will be to lightly pack every recess of the wound and fill to the surface with gauze, moistened by some non-irritating antiseptic solution. (Oschner's is excellent. It is composed of equal parts of 5 per cent carbolic acid, alcohol, and saturated boracic acid solution.) Over this put a generous amount of gauze moistened with the same solution; then follow with dry sterilized absorbent cotton and light bandaging. If you

cannot see the case again within twelve hours, cover the dressings with sterile oiled silk, rubber tissue, or parafine paper before bandaging. Thus the dressings will remain moist and promote constant serous drainage from the wound. Positively no stitches are to be introduced at this time. A single stitch might include dangerous infective matter that previous efforts had not removed. If the injury is of the hand, forearm, or leg a supporting splint should be applied. Necessary attention should be paid to the bowels, diet, etc.

Depending on its severity, the wound should be dressed in from six to twelve hours; afterwards, once or twice daily will usually suffice. In doing the dressings, it is generally only necessary to remove the outer portions. If there is no fever, redness about the wound, or purulent discharge the packing need not be disturbed for several dressings.

It may be moistened and covered as before. Should it be deemed necessary to remove the gauze packing earlier than from three to five days, this can be accomplished by irrigating with normal salt solution. It can then be easily withdrawn by gentle traction and lightly lifting the edges of the wound.

Within three to five days after the injury, granulation of the wound will have begun, and danger from infection will have passed. Unless the tissues were devitalized by the injury, or by packing and bandaging too tightly, they will now be hyperemic and in a very favorable condition for healing.

As to the closing of the wound: Usually no stitches will be required; sterile adhesive plaster will do instead of sutures; in fact, careful bandaging will often answer perfectly. If there are any dead spaces the dressings can be so arranged as to close them by pressure. Suturing may be done if thought advisable, but the scars will not be greatly different, supposing the work to have been carefully done in either case. Tube-drainage from the most dependent part of the wound, for a day or two, may be of advantage.

By this plan of treatment no dangerous infective matter is inclosed in the wound, and the opportunities for serous drainage are complete, through the capillarity of the moist gauze packing and dressings. The open condition of the wound, and the fact that it is filled with an antiseptic solution contained in the gauze, render any infective matter inert. Tissues that had seemed devoid of vitality will now, frequently, present a lively appearance; meanwhile leucocytes are being poured into the irritated tissues

for the further protection of the patient, and the fixed cells are multiplying for the processes of repair.

What are some of the particular benefits following this plan of treatment? I will answer:

1. Infection, with all its serious complications, is almost invariably averted.
2. Pain is reduced to a minimum, and there is no serious disturbance of the general health.
3. All tissue can be saved that is not already necrotic; hence, where hands and feet have been crushed off, amputation can be done through doubtful tissues and a greater portion of the limb saved in consequence. This is often a point of inestimable value to the unfortunate one.
4. Interference with function of the part involved, will be reduced to its lowest terms.
5. Assurance of recovery, and the least possible loss of time.

If it were necessary much more might be said, but I will only add: Be careful in your use of the "deadly suture," as we term it.

Having discussed lacerated wounds at some length, and because of a certain similarity between them, I shall deal with only a few points in connection with the remaining forms of injury previously indicated.

*Contused Wounds.*—Whenever there has been a severe contusion of subcutaneous tissues without an external opening, examine the skin very carefully, and if an abraded area of pale, ischemic appearance is found, it is safe to infer that it is, or will become, necrotic, particularly so if it presents a dark-red or brownish look. Altogether the wisest and safest thing to do in such a case is to incise the skin freely, evacuate clots or liquid blood, drain thoroughly, and otherwise treat as in a case of lacerated wound.

Why this treatment, you may ask? We all know the infectiousness of the skin,—if I may be permitted the term,—and the impossibility of sterilizing it. Therefore we can understand the rapid propagation of infective germs in the dead-skin area and their passage through to the rich culture-material beneath. I will cite a case to show what might happen: A young man in good health received a very severe contusion of his right hand. Two days later he was admitted to our hospital, with a condition of the skin at the point of injury such as I have described. It had not been incised, and a severe infection had resulted. Sequel: he died of septicemia in five days after the injury.

*Incised Wounds.*—There is always a strong inclination to suture simple incised wounds at

once. In many cases this may be done and prompt healing will follow; however, when such an injury occurs in a region where the skin is invariably more or less unclean, and the injuring instrument is unsterile, it will be the part of caution and wisdom to adopt the open-plan of treatment, temporarily at least.

*Punctured Wounds.*—These are dangerous injuries, even when treated in the most competent manner; however, and to our comfort, it can be said that treatment may be so efficient as to reduce the danger to a minimum. Small, shallow wounds made by such instruments as tacks, splinters, and pins can often be deprived of infective matter by at once sucking them vigorously with the mouth. It is safer, however, to supplement this action by opening the wound and sterilizing it to the bottom with 95 per cent carbolic acid.

One of our local surgeons injured his right thumb on a nail. A slight, local infection followed which had practically cleared up when he bruised his left thumb, very slightly, with one of his medical books, ten days after the previous injury. Almost at once this hand and arm began to swell, and soon a dangerous condition from general septicemia was evident. The skin of the thumb last injured was not broken, and no infection atrium was discernible. It seemed probable to us that a latent systemic infection existed from the former injury and was the cause of the new development. The patient died within two weeks of his injury.

In all punctured wounds where some portion of the injuring instrument is left behind, the same should be removed as quickly as possible. Punctured wounds of the hands and feet are very common and productive of serious conditions, hence the necessity of dealing with them in a very prompt and thorough manner. The feet are frequently punctured by nails. The wounds should be opened to a sufficient extent to secure thorough cleansing and drainage. When the punctures have nearly perforated, if there are no anatomical objections, they should be made into perforating wounds, as through-and-through irrigation and drainage are the most efficient.

What I have previously said will also apply in the further treatment of these wounds.

In closing these remarks on wounds I might add that we have not had a case of tetanus in our hospital in twenty years. It seems fair to assume that the treatment was a factor in preventing this dreadful disease.

(To be continued.)



# HEREDITY\*

By E. L. MURDY, M. D.

ABERDEEN, S. D.

The subject I have selected to speak upon, heredity, is one of such vast magnitude that the whole of it could not be written in a volume or in even a library. I shall, therefore, confine myself to a discussion of a few of the practical medical points. As practical physicians we are especially concerned with those phases of heredity which have a medical bearing.

In tracing heredity we desire to inform ourselves of that which is transmitted from parent to child, and when to this we add the conditions acquired by environment, association, education, custom, etc., we then have a character. In the study of heredity, pure and simple, however, we must keep in mind the modifications suggested or we shall be spending our time with the complex problems of character when the object of primary importance is heredity. Further than this: We find that the consideration of heredity compels some consideration of the modifications, otherwise it would not be complete. One cannot therefore entirely disassociate the modifications and make a proper study of heredity as we understand it today.

Let us go back to the beginning for a moment and for the sake of argument suppose that men (as we are taught in the Bible) of all races as they now exist, came from a common stock. How are we to account for the great variation? Are we going to overthrow the orthodox theory and say the black man was placed in the jungles of Africa; the white man on the Euphrates; the yellow man in Asia; and the red man in the forest yet more remote? Can we explain this variation on a reasonable working hypothesis? How are we going to reconcile the orthodox theory of the origin of man with his present state of diversity? By evolution, and by evolution only.

As all human beings must be elaborated from a single cell, a cell that has been conjugated, there lies the beginning of heredity. Heredity then, pure and simple, must arise there as the starting-point. If there were no modifications, variations, acquirements, or alterations, we should expect the children of parents reared under the same conditions as were their parents, to

be facsimiles or copies of them. Yet, on the other hand, we are often impressed with the great similarity of children to their parents, even when the chances for variation are great.

This should impress upon us the large amount of character that is carried through the little conjugated cell, the cell that starts as a single mononucleated cell and by the process of division, multiplication, etc., develops into the highest and most complicated of all beings—a human being with all its endowments.

Direct heredity, as suggested, is the transmission of such endowments as can be impressed upon the little conjugated cell. The study of biology teaches us that the simplest forms of life are a unicellular mononucleated cell, and the higher forms are a multiplication of the unicellular, diversified and specialized, clear up the line until the most perfect of beings are formed. Thus it will be seen that the first, or the beginning, of a human being conforms to this law, and it starts as a single cell, developing from this simple cell—this little piece of protoplasm—into the diverse complicated organism with its multiplication of cells and specialized cells that we find it in a mature individual. The wonder is—and this wonder grows as we study it—how this cell—this little piece of protoplasm—can carry characteristics that are so distinct, so certain. The laws of heredity are immutable.

Here it might be well to give a short résumé of the laws of heredity, for it will enable us to better understand the subject and discussion. The laws of heredity, as they relate to insanity and with slight modifications to other forms, may be briefly summarized as follows:

1. The child tends to inherit every attribute of both parents.
2. Contradictory attributes cannot be inherited from both parents.
3. The child may inherit the attributes of either parent solely.
4. It may inherit the qualities of one parent in some respects and of the other in other respects.
5. It may inherit the father's attributes for one period of existence and the mother's for another.
6. Some attributes have the quality of pre-

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potency, or the tendency to push aside or overrule other attributes.

7. Attributes which are similar in both parents tend to become prepotent, giving rise to convergent or cumulative heredity.

8. Attributes may be transmitted in latent form from one generation to another, to reappear in the third or fourth, or still more remote generation—a phenomenon termed "reversion."

9. Attributes tend to appear in the progeny about the same time of life at which they become manifest in the parents.

10. Attributes of the father tend to be inherited by the sons and of the mother by the daughters.

The polymorphism of hereditary transmission sometimes manifests itself in what is known as progressive hereditary degeneracy; for example, drunkenness in one generation may lead to simple psychoses in the next, to complete degenerative psychoses, epilepsy, etc., in the third generation, and finally in the fourth, to idiocy, sterility, and the annihilation of the stock.

The fact is not disputed that much of heredity is derived directly from the primary cell. Now we want to consider how this may be changed, altered, or modified. First, we must accept as proven that a certain amount of variation is normal; for instance, in every family each member of the family will differ, slightly or in a more marked degree, both in physical development and mental characteristics. Even twins of the most striking resemblance will sometimes differ. Then there is the variation by natural selection according to the Neo-Darwin law; for instance, the exigencies of the times in all history made it necessary for the fittest, the best, the superior, to rule, govern, and survive. In fact, it is the explanation, if we will accept acquired variation, of our present superiority, our present grand attainments. What I mean by acquired variation is this: Take a given stock of good quality, or poor, if you choose, let that stock breed, and rear the offspring under favorable environment, educationally and morally. Then place it within influence conducive to elevation, and continue this through several generations, and you will see an improvement on the old stock. Also by artificial selection, which is practically the same thing, the original stock can be much improved. This law is understood by any farmer or breeder of live-stock and could be emulated by so-called polite society to the everlasting benefit of humanity.

Why should we not use as much judgment in selecting a mother for our children as our farmer friend does in selecting stock to improve his herd of white-face cattle? Someone has said, "Love is blind." *It is worse.*

While acquired variation may be along the lines of improvement, it may also be quite the reverse. Breeding from bad stock leads to degeneracy, impotency, and eventually to extinction.

A discussion of acquirements would not be complete without a discussion of hereditary acquirements against disease. It is a fact that we have acquired a great deal of hereditary immunity, and this immunity grows as our knowledge and acquaintance with a disease grows; for instance, many of us have a hereditary immunity against tuberculosis. With some of us it is practically complete; with others it is sufficient to protect them against an ordinary exposure; and again there are others who are only partially protected. But the law holds good that the races that have the most experience and longest acquaintance with a particular disease have acquired the greatest amount of immunity. An example may be found in the case of tuberculosis where we find in the oldest civilized countries, such as England, continental Europe, and the United States, that the greatest amount of immunity exists.

Tuberculosis was not known among the North American Indians until they came in contact with the whites, and now it threatens the extinction of the races because they have not acquired sufficient immunity to protect themselves against the ravages of the disease. At the present rate of mortality from tuberculosis among the Indians they must soon become a dead race. But hereditary acquirements may assert themselves with sufficient influence to protect the red men, and at least prolong the race for a few generations. The South African negroes have not acquired immunity against tuberculosis, and when it was introduced to the natives it practically decimated certain tribes and districts. Even the American negro, who has had considerable experience with the disease, is much less resistant than his white neighbor.

In the years 1803 and 1810 the British government imported three or four thousand negroes from Mozambique into Ceylon to form into regiments. In December, 1820, there were left just 440 of that army, and that included the male descendants. All the rest had died, mainly

from tuberculosis, and this in a country where the disease is not nearly so prevalent as in England.

Malaria is one of the diseases against which we have acquired a great deal of immunity, although the immunity seems to be for a shorter period and confined more particularly to the people who live in malarious regions. An example may be found in the South African negro whose habitat is a terrible, deadly malarious region. He lives in comparative safety and is immune; yet the armies of England were whipped by the "*plasmodium malariae*" when they invaded the South African country. Certain parts of India also are so malarious that England can scarcely maintain an army intact; yet the natives are comparatively immune.

As a further proof of the fact that immunity against disease may be acquired, as our experience with it increases, I wish to cite some facts relative to measles, whooping-cough, and smallpox. Measles we regard very lightly now and do not think of it as a lethal disease unless we find complications, nor do we look for many or severe sequelæ; yet history tells us that at times it has been a devastating plague. We know the story of Fije, a people that had not undergone any evolution against the disease, and how, in 1876, this disease swept away 40,000 out of a population of 150,000, and how, in 1893, the disease fairly decimated Samoa, the largest number dying after the eruptive stage from the sequelæ. Whooping-cough under similar conditions has been a grave and serious disease, leaving death and devastation in its wake. Smallpox, a disease as old as the world, or at least as old as history, and as new as the latest political issue, is a striking example of evolution against a disease. The furore caused by its ravages is common history, and its existence as a plague that decimated large districts, annihilating state, party and national lines, sweeping all classes and all colors before it, is written even in modern history. Many of the older practitioners remember the frightful mortality from this disease. Even in the epidemics of the last fifty years a mortality of 50 per cent is recorded. Today we hardly regard it as a lethal disease. We do not regard it as serious as measles, and in many cases we regard it as milder than chicken-pox.

A careful review of the literature reveals the following facts relative to hereditary diseases:

In insanity, 20 to 40 per cent of the cases are hereditary or from parents who possess some

neuropsychic equivalent. By the working of the laws of heredity reversion to type may explain a certain number of cases, and, again, that other law by which both parents possessing common neuropsychic attributes will transmit their common attributes in an exaggerated form, or in a pre-potent form, resulting therefore in more perversion or more insanity for their progeny. Children tend to inherit the attributes of both parents; therefore, if there is insanity on both sides, or on either side, or an unstable nervous system, or if the parents possess the neuropsychic equivalents, insanity or its equivalent in their children will be the logical issue of the union.

In epilepsy many of the same conditions prevail, and the same laws are operative. Outside of traumatic epilepsy 10 to 40 per cent of all epileptics are the direct heritage of epilepsy or some neuropsychic equivalent.

In idiocy 50 per cent of the cases are the direct heritage of mentally defective parents, and the same laws are operative which apply to all neuropathic diseases.

While speaking of the hereditary neuropsychoses I wish to mention alcoholism and the drug-habits. A goodly number of the children of alcoholic parents, or of one alcoholic parent, inherit an unstable nervous system. They are therefore apt to fall victims to alcohol, to drugs, or to some other perversion, or later acquire some organic disease of a neuropathic type. This class of cases must have some balm to quiet the nervous system, some excess or excitement to indulge their perverted and unstable tendencies. It is this class that acquires the alcohol or drug-habit, and, together with weakness of will, are subject to the depth of the habit with the least possibility of a cure. On the other hand, should their tendencies be of a venereal aspect, it will take them to the limit.

In tuberculosis a large percentage of the population is undergoing evolution against the disease, yet the negative phases of heredity are preparing enough with a predisposition, so that we have always a large number of susceptible persons, or persons who are not fully protected. Heredity therefore is doing a double rôle in this, as in all other diseases, and a certain number of infants start life with the handicap of hereditary tendency to tuberculosis.

A careful estimate of available statistics indicates that from 10 to 30 per cent of tuberculosis is evolved from the class with a hereditary ten-



dency. A very few infants may acquire tuberculosis *in utero*, but otherwise the infection comes after birth.

Syphilis, the disease of diseases and one that might be regarded as hereditary, presents comparatively few cases, and when they do occur the laws of natural selection steps in, unless prevented by modern medicine, and endeavors to destroy the stock by elimination and annihilation.

I might go on and enumerate all the diseases where heredity plays a part, and draw some very close and definite conclusions, among which we could consider what influence modern medicine is having on the good of the human race. Manifestly, it would seem that, as medical science advances, methods improve and knowledge increases, it should prove a great boon. But is it? Are not our greatest efforts concerned with the negative phase of heredity, and are we not constantly trying to improve those who are, by heredity, defective? Inasmuch as we are prolonging the lives of the defective, the weak, and the aged, and in many instances making it possible for the defective to propagate, it would seem that we are placing greater burdens on society and making it a question whether or not we are actually benefiting the human race.

Again, when we consider such a large number of cases as those mentioned, cases with hereditary foundation, it is manifest that the supply of such tendencies should be limited in every moral and legitimate way, and, as I see it, this can only be done by the limitation of marriage and production.

#### DISCUSSION

Dr. E. Klaveness (Sioux Falls): I have been unable to hear the greater part of the paper recently read before the Association, and therefore do not really know in what way the doctor has chosen to present his subject.

The question of heredity is so immense I really do not know how I should best go at it to bring about the opening of this discussion. The fact, however, is, that we meet in our practice instances where hereditary influences are too marked and too conspicuous to be brushed aside, and what I would like to call your attention to is that, from an embryological standpoint, it is the ectoderm that pre-eminently carries along with it whatever impression there may be left on the primordial cell, in continuing the weaknesses or strong points of the human race. It is pre-eminently the ectoderm through which we have an opportunity to see how various traits are continued through generations right along. Especially can this be applied to the whole nervous system, and we do find more often the statement that it is an hereditary affliction in insanity and in nervous diseases than possibly any other field of

medicine. It also applies to another kind of a tissue-structure which takes its origin from the ectoderm, i. e., the skin. There are a great many skin diseases which are hereditary, and I call your attention more particularly to ichthyosis. This is a disease that has been studied more or less thoroughly, and it has been found that it will alternate with cases of insanity or other cases of ichthyosis.

Another organ from the ectoderm would be the eye, and you all know that we have a disease called retinitis pigmentosa, for which we have no other explanation than to say it is hereditary, and it has been proven so to be.

But what is the cause of this manifestation? That is the point where I am sorry to say I came too late to grasp the whole paper as presented by the doctor. I do not know whether he propounded any theory. It is very doubtful if the old theory by Dr. His, to the effect that the original cell should be like a depot that carried all these various minute particles, or set aside—you might say that—to characterize the race and also its weakness, would hold water. It now stands as one of the theories, together with Lamarek's, that there is an imprint upon the primordial cell, but there is something peculiar with this question. In the protoplasm in itself it is carried along with it. Whether it conveys any pathological traits at all, it does take along with it, at least, one hereditary imprint, and that is that it is given a limited time, and when it be maintained in its normal state apparently all the time, it is finally compelled to yield to this hereditary imprint and cease to exist. In other words, it carries along with it its own finality, its death, and that is equally applicable to all parts of the protoplasm. I do not know of any diseases that are generally looked upon as hereditary and could be referred to organs developed from the mesoderm and endoderm. It may be some would say that syphilis is equally manifested in all the various organs developed from those various layers, but I hardly look upon syphilis as such a true manifestation of hereditary as the other diseases I have mentioned, because it necessitates an infection at least, and we know that it depends upon the same virus penetrating the ovum and the spermatozoa, where it is kept latent with these influences.

The question of heredity has been so broadened out that it has of late been made applicable also to born criminals, as we call them, and it may be that there is something in it, although one of the rules would read that every species developed would be fitted by nature in the best possible way to adapt itself to circumstances. It is the fitness of its makeup that allows it to take up a life in competition with other beings where of course the fittest will survive, and in that way criminals might be looked upon as less fit to survive. The external signs as described by Lombroso, the various signs of atavism, are frequently to be found in apparently absolutely normal human beings, and so could not be given so much weight.

#### TO ANESTHETIZE A PERITONSILLAR ABSCESS

It is almost impossible to successfully anesthetize a peritonsillar abscess. The patient should be placed under the lightest possible narcosis and the incision made rapidly while the head is suspended over the edge of the table.—American Journal of Surgery.



# TUBERCULIN TREATMENT OF TUBERCULAR GLANDS OF THE NECK\*

By M. M. GHENT, M. D.

ST. PAUL

The first patient, the grandmother, has had these glands of the neck for over forty years. With the first trouble she had, the glands were just under the chin. She consulted her family physician. He ordered tinct. of iodine applied to the parts, and the glands soon disappeared to return again further to the left. As a child she had diphtheria. The tonsils are still enlarged.

The glands seem to be in one bunch, if not one gland, and grew to be as large as a small orange. After about thirty years this tumor-mass was removed. Within six months it began to grow again, soon reaching its former size. The next year it was again operated upon. After the second operation it was nearly a year before the glands began to grow again. When I first saw her this gland-mass was about the size of a goose-egg.

In connection with these glands the patient has always complained of her left lung and of pain in the left pleura. She says when she works hard this left side gets tired sooner than the other. She has no lung involvement that I can demonstrate. About six months before we started the treatment of the glands we treated her for left-side pleurisy, which was very persistent. After this she was not free from pain in this side till the tuberculin treatment was started. Otherwise the patient has always been well and able to do her own housework.

The second patient is the granddaughter, fourteen years old. At the age of three years her mother first noticed these glands on both sides of the neck. She was never a strong child, and the mother was often told that she would die of tuberculosis. It was only a short time after the glands were noticed until one broke down and was curetted. This started other glands to growing. Other broken-down glands were removed later.

Probably, Fenger did more work on the surgery of tubercular glands of the neck than any other person in America during his time. He said, at best the surgical results are not good. The cosmetic effect is bad, and the disturbance of the operation seems to stimulate the recurrence, as was the case in our two cases here.

Murphy says, never remove tubercular glands of the neck in a child under five years old unless the glands are broken down. If these cases are to be treated it must be other than surgical.

Over 90 per cent of tubercular glands of the neck are infected through the tonsils, and therefore if a given case is to be treated medically or otherwise, first remove the tonsils to prevent any further re-infection from the original seat. That does not mean that the top of the tonsil is to be cut off with a tonsillotome, but that the tonsils are to be dissected out carefully, so that there is no diseased tissue left. (See Dr. Todd's article on tonsillotomy.)

In 1882 Koch discovered the tubercle bacillus. The older members of the Association doubtless remember what a sensation that made and how it was discussed in the newspapers and by the laity. In 1890 he discovered tuberculin, and this was nearly as loudly lauded as the discovery of the bacillus, and, unfortunately for science and humanity, it was almost universally condemned by not only the profession but by the laity. Only six months ago I wanted to treat a case of tubercular glands of the neck with tuberculin. The patient said she would write and ask a cousin who was a physician. He answered by saying she had better have nothing to do with it. The results are that the young lady is having nothing done for her condition.

There were two reasons why this treatment was condemned: first, too much was claimed for it; second, too large doses were given, and instead of benefiting the cases they were actually made worse. Then the question arose among the profession if the tuberculin treatment would not kindle a latent or healed tuberculous lesion and become dangerous. Most of the profession took the stand that the treatment not only did no good, but was very dangerous. One reason why it was considered dangerous was because of the reaction after a diagnostic dose was given. It has taken, and will take, lots of time before the profession will have complete confidence in this treatment, and then it will be a question of education to eradicate this idea from the lay mind. Trudeau has probably done more work on tuberculin-therapy in this country than any one else. He says he has been treating cases

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.

of tuberculosis with tuberculin more or less ever since 1890. He says just now there is a great revival in the use of tuberculin. Koch claims that its efficiency as a cure is completely proven, provided its application be restricted to still curable cases.

My reason for wanting to present these cases is because this treatment is practical and can be carried out by every general practitioner. Any disease that is as chronic as tuberculosis will be slow to yield to treatment. These cases I started to treat in November, 1907, with Koch's new tuberculin. I used it according to Wright's method for about two months. Wright's idea is to gauge the dose by the opsonic index. He does not think it necessary to progressively increase the dose. Under this treatment I noticed some improvement in the beginning, but later the progress came to a standstill, and then I changed to the clinical method and used Koch's old tuberculin as first used by Denys and described by Trudeau. The clinical method begins with a small dose, say, for Koch's old tuberculin, 1-1000 of a milligram and progressively increase each dose, being careful not to give enough to cause a reaction. We are giving this tuberculin in serial dilutions—five series in all. Nos. 1, 2, 3, 4, and 5, as described by Trudeau. Two min. of No. 1 contains 1-1000 mg. of Koch's old tuberculin, that is the first dose. Each dose is increased by two min. There are then ten doses in No. 1. Then take dilution No. 2, starting with two min., increasing just as before until all the five series are used, provided no reaction occurs.

I have found it almost impossible to tell when authorities agree that a reaction is to be avoided these patients are going to get a reaction. All if possible, but in these gland-cases I have noticed that the glands would reduce in size very rapidly after a reaction. However, try to avoid a reaction as much as possible. The dose can be fairly well judged by observing the local reaction and by studying the patient carefully. Before a reaction occurs the point of injection will become hard and swollen with more or less tenderness and fever. When you find this condition do not increase the dose, but omit one or two treatments.

With these patients we began the treatment in November, 1907. In each case there was reaction two or three times. From the beginning the grandmother did well. At first she complained of pain in the glands, later "there was a sort of an ache just as though the medicine was working." The pain and tired feeling in the left pleura disappeared, and she claims she can work

without becoming tired. She lost about ten pounds in flesh in two months. This she was very glad to do.

The granddaughter, as I have said, was never well. It was three or four weeks before she began to pick up. The glands slowly reduced in size and she was eating and feeling better in every way. She gained in weight and looks healthy. These cases have been treated three times a week for five months. At the end of this time the mass of glands in the first patient has been reduced from the size of a goose-egg to that of an English walnut. The second patient showed only a few glands, and these were about the size of hazel-nuts. Then we gave them a vacation of four months to see if the improvement was temporary or permanent. They were started on the treatment two weeks ago. The glands and general condition were unchanged from what we left them in the spring. After the treatment was discontinued four months ago both patients said they did not feel well. They claimed that they had no ambition and felt more as they did before the treatment was started. This lasted about two weeks, when they began to pick up, and after that they felt well. As soon as the treatment was started again two weeks ago there was marked improvement in the size of the glands. They are much smaller now than they have ever been. This one thing I have noticed,—the size of the glands may change suddenly. For instance, they may reduce gradually for a time then all at once get larger. I cannot explain this phenomenon. If you were to ask me how long I am going to treat these cases I would say as long as they show improvement or until they are well.

The rapid improvement in these patients since the treatment was started two weeks ago suggests to me that it might be well to treat these cases for three months and then give them a vacation for three months, then repeating the treatment. Dr. Jones, of Portland, has cured twenty cases, and he claims he treated them from five to eight months. I think one year would be better. It is not only the reduction in the size of the glands, but it is the constitutional benefit that the patients receive, that is important.

There are two kinds of cases that are not amenable to this treatment:

First, those glands that have broken down. They must be curetted and then the treatment given to prevent recurrence.

Second, those glands that have hard sclerous tissue. They will not react to the tuberculin treatment, but had better be operated upon. I



give it as my opinion that the other tubercular glands of the neck will yield to this treatment, and I urge the members of this Association to try it.

Dr. Clive Riviere says: "It is in localized tuberculosis that the most certain successes of tuberculin are achieved, and it is on the child population of the country that the weight of localized tuberculosis falls. The vast field of surgical tuberculosis in children comes under this heading. Thus it happens that tuberculosis in children should be the very home of tuberculin treatment."

What I have said of the treatment of tubercular glands will also apply to all kinds of local tuberculosis, for example, tuberculosis of the bones, of the bladder, the kidneys, the genitalia in women, the testicle, the peritoneum, the joints, etc., as well as to incipient lung tuberculosis. Every case of tuberculosis of the lungs should have the benefit of this treatment. Dr. Stumm has treated two cases of tuberculosis of the kidneys with surprisingly good results, and Dr. Jones reported a case to me this week of like results.

## RESULTS OF PNEUMONIA, EMPYEMA, AND RIB-RESECTION\*

BY E. H. BAYLEY, M. D.

LAKE CITY, MINN.

This is the case of a child a little over four years old who had an acute attack of pneumonia on the left side. The temperature ran as high as 103° and 105° for seven or eight days, and then came the crisis. I did not see the case then for several days, and they sent for me again and I found the case with fever 101° to 102°. It was difficult for me to determine whether I had a delayed resolution of a pneumonia or whether there was an empyema, because the empyema was difficult to diagnose. There was no bulging of the left side, but the case was not doing well. I therefore determined to find whether I had an empyema. Upon aspiration in the sixth intercostal space on the left side I found I had pus. Then I resected a portion of the seventh rib, and what surprised me, was the small amount of pus that I found. There was not more than a fourth of a teacupful. Usually, in the empyemas that I had seen, we found a large amount of pus. Following the resection of the rib there was established perfect drainage. The temperature went to normal, and the child made a good recovery.

To me it was almost impossible to diagnose this small empyema, but the aspiration that I made gave me a positive diagnosis. The resection of a part of a rib produced perfect drainage and caused the child to make an excellent recovery.

### DISCUSSION

Dr. J. W. Andrews (Mankato): I am glad to see the pendulum swinging back to a more normal treatment of these cases of empyema. Some years ago we were resecting from three to five ribs, and we would leave the patient deformed for life. If the opening is made low down, as it should be and usually is, we do not require a large opening for drainage. In resection usually a portion of one rib is sufficient, and our patients get well as quickly and as surely and with less deformity; and after the operation there is a less amount of raw surface left, and consequently not so great a danger of septic conditions. Therefore I would most strongly recommend that at least in the larger number of cases of empyema we pursue the more experimental plan of making a small opening. By a small opening I mean the resection of but one rib.

Dr. W. T. Adams (Elgin): I had an experience last spring with a case of empyema, the results of which convinced me that the resection of a rib to secure drainage is not always necessary. I had a girl sixteen years old with a large empyema, in which the pressure of the pus had markedly displaced the heart, and the indications were that death would ensue very soon if not relieved. I had everything ready for resecting a rib, but with the first whiff of chloroform, my patient gave every indication of immediate death. I made a quick incision into the intercostal space, and taking a pair of hemostatic forceps, with the blades closed, thrust them through the chest-wall into the pleural cavity; then separating the blades, I pulled them out, thus making a liberal opening, through which the pus poured out in enormous quantities. I then placed a rubber tube, which proved to be ample for all time.

My thought was to make a temporary drainage, to relieve for the time being, and then make a more radical operation when the condition of the patient warranted it, but I was gratified to know that the drainage

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.



secured was sufficient for all time. After about five weeks the tube was removed, and in another week the opening was healed, and the patient made a good recovery. The chest-wall on that side was badly caved in, and I regretted that an earlier operation had not been made, as I am convinced that with an early operation there will be less damage done to the chest-wall, and the lung will have a better chance to expand to its normal relations.

I put my patient under a systematic course of gymnastic exercises, teaching her to strengthen the muscles of the chest, with the view of forced expansion, and with the result that there has been a marked degree of improvement. While the chest is not exactly normal, I am highly pleased with the result.

I had another case about the same time, a young man with a large empyema, in which, when I used a large exploring-needle it filled with thick, ropy pus. I then introduced an aspirator-needle, and the first few ounces of fluid were thick pus; then the character of it changed to serum, of which I drew three pints or more, the last portions being very clear and free from purulent appearance. I was at a loss to explain the presence of pus in the lower portions of the chest while the upper portions were filled with almost clear serum. I operated on this case by introducing a tube through the intercostal space, without resecting a rib, and I think my results are favorable.

I do not wish to say that I am opposed to resection in a large number of cases, but, rather, that a large variety of cases will get along as well without. I think in this, as in all surgical procedures, the less mutilating that is done, provided the object is well accomplished, the better. Many patients requiring this measure of relief, as was the case in my cases, are in very poor shape to stand any kind of surgical procedure, hence the less that is done the better, provided the drainage is adequate.

Dr. W. H. Magie (Duluth): I can not let this opportunity pass without saying a few words about empyema. I think it is dangerous to teach that aspiration is sufficient in empyema. That was about the only thing we dared to do, say twenty-five years ago. I know my experience does not coincide with the experience that has been brought forth here, that is, the probability of curing empyema, especially with simple drainage without resorting to rib resection. My cases would have to be aspirated and re-aspirated several times in the early days, and after years when we got more courage and began to resect ribs, our results were better. Rib-resection is such a simple and harmless operation I can see no reason why, except in large empyemas where patients cannot stand an anesthetic, resection should not be made at once. Everything depends on thorough drainage. In this class of cases I have found it gives me a choice to make a simple aspiration to temporarily relieve the original symptoms due to pressure, and then by placing them in the Fowler position you can often succeed in walling off what is doubtless a septic general pleurisy, converting it into a walled-off empyema, and after a few days resection is done and the patient recovers.

I do not think we ought to let the impression go out that simple intercostal incision is sufficient in empyema. If we adopt that practice we shall have a lot of unsatisfactory cases, and we shall have to resort to other operative measures at a later period.

Dr. C. H. Mayo (Rochester): It seems to me we have missed a good many points in these different types of empyema. If a man thinks he is going to drain a streptococcus empyema—that is different. If, however, he has a pneumococcus germ he can aspirate once or twice, and these cases may be cured. The cases of the tuberculous type of empyemas, it is claimed, are at least 85 to 90 per cent. In the early stages of the pneumococcus empyema a simple aspiration with antiseptic injection is often sufficient, and where no adhesions have taken place it is a simple matter to treat an empyema. If you make diagnosis earlier it will take a year for that lung to become practically normal. It does not make any difference what you are going to do, that lung is going to be just as good as the other unless that case has come to you very late, and then you have a lung that will shrivel up and that will contract the chest-cavity.

Then there comes the question whether you will take ribs out to reduce it, so it would be interesting in this discussion if those who have had experience will give us a description of the type they met, and the time of operation; that is, the number of days after the first symptoms have started, and the kind of operation that was made.

Dr. Arthur T. Mann (Minneapolis): I think the whole question of whether we shall resect one or more ribs or shall make an incision between the ribs in the acute and subacute cases of empyema, is a question of drainage. If an incision between the ribs gives us an opening large enough to drain the empyema for the required length of time, an incision between the ribs is all we need. If such an incision does not afford a sufficient drainage space it becomes necessary to resect one or more ribs until such space is made.

In regard to the case in which the thick pus was drawn by the aspirator and a clear serum flowed from the opening made into the pleural cavity: I think the explanation may be an accumulation of serum in the pleural cavity and at the same time an abscess just beneath the diaphragm or in the liver. In one such case I was very much surprised to get serum on opening the chest-cavity when I knew we had drawn pus through the aspirating-needle. The only explanation was that the needle had passed through the diaphragm as well as the chest-wall. The only thing to do was either to close the original incision and make a new one to drain the abscess somewhere below the level of the pleura, usually toward the front, or to go through the pleural space by suturing the edges of the original incision to the arching diaphragm, and by cutting through the diaphragm into the abscess in the one- or the two-stage operation. With pus under the diaphragm, the diaphragm is pushed upwards, so that it may be very close to the chest-wall and it only takes an ordinary penetration of the aspirating-needle to pierce the diaphragm, as well as the chest-wall. In my case the pus was not only beneath the diaphragm, but was in the liver itself. The history showed it to be secondary to an attack of appendicitis some four weeks before. This abscess was successfully drained by the transpleural operation in one stage, with the rapid closure of a cavity which must have held about six ounces of pus, and across the space of which large blood-vessels could be felt, stretched like cords.

# TWO UNUSUAL CASES OF DIPHTHERIA INVOLVEMENT, OR CONTAMINATION OF WOUNDS\*

By E. L. TUOHY, M. D.

DULUTH

It is well known and rather frequently observed, that the bacillus of diphtheria may produce lesions upon other parts of the body, than the usual sites; for instance, in the mucous membrane of the vagina, under the prepuce of the male, and also diphtheritic infection of the birth-tract after confinement. Yet it is not so commonly known that the bacillus may involve skin lesions or broken surfaces as well. As to whether the bacillus may do this primarily or not is an open question. The fact that patients with diphtheria, and their attendants, so rarely show such skin lesions is evidence that such do not readily occur; but that the bacillus may get into open wounds, complicating the diseased condition present, and greatly delaying healing, is amply attested by the two cases which I shall report.

From a rather hasty and incomplete survey of the recent literature, I have been able to find but one reference to a similar condition, resembling in a general way my cases. Floyd and Worthington while doing general work upon vaccines, and investigating chronic discharges, sinuses, etc., endeavored to treat a chronic discharging empyema. It was the case of a child who had developed the empyema following a pneumonia. It had been drained and had been discharging for several weeks. In the hospital in question it is a routine measure to give each child upon admittance a prophylactic dose of antitoxin. This was done, and cultures were taken of the discharge, with the idea of making a vaccine. To their surprise they found cultures of bacillus diphtheriæ. The prophylactic dose of antitoxin given cured the sinus in a short time.

CASE 1.—In March of this year a man came under Dr. Magie's care in St. Mary's Hospital in Duluth, who gave the following history:

About three months before he had had an infected finger working in the lumber woods. He was treated in a hospital near the camp in which he had worked. The finger was opened, and all went well for a few days. He then developed an abscess of the axillary gland. This was opened and drained. The finger promptly healed up, but the axillary wound became very obstinate and chronic.

When seen three months after the first trouble, there was tremendous induration about the axilla. Three sinuses could be probed, running far under the muscle in different directions. The brawny induration had a raw surface over a considerable area. This surface, in turn, had a peculiar whitish exudate over it. Actinomycosis was suggested, and I was asked to look for the ray fungus. Much to my surprise, all the cultures taken showed pure cultures of bacillus diphtheriæ, the C. DD<sup>2</sup>, and A forms of Wesbrook predominating.

The patient had a little fever, was getting progressively weaker, and soon after this time began to lose the use of his lower limbs. He was immediately isolated and given antitoxin. The hazy exudate on the surface soon disappeared, and the wound took on a raw surface, showing the formation of healthy granulations. The sinuses got shorter daily. Local treatment was kept up in the way of gauze packing. This had been done previous to the antitoxin treatment for a long time, to absolutely no avail. In about three weeks the wound had completely closed. It is of interest, that up to the very time that the last scab came off, cultures of bacillus diphtheriæ were gotten from the granulating surfaces of the wound.

One reason that the antitoxin did not act more quickly in this case, was the fact that there was so much induration about the site of the lesion. No doubt the blood serum had very little direct access to the affected tissues.

CASE 2.—While Case 1 was under treatment, another man from the same hospital came to Duluth for the treatment of a large ulcer over his left tibia. He gave this history:

He had had a suppurating bunion about March 1, 1908. This had been opened and drained. In about ten days he developed a swelling over the tibia, and this was also opened and drained. For four weeks this wound was packed and irrigated daily. For a time the incision enlarged, and then it began to heal. He was permitted to walk about some for two weeks. The wound, which by this time had become an ulcer of some size, began to enlarge still further. The primary wound had healed long before. He was in this condition when he came to Duluth on April 15

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



and began treatment with Dr. Bagley. He gave a clear history of syphilis, with a short period of treatment some years before. It was natural then that he should be put upon antispecific treatment. This, with local measures, for two weeks had no good affect. The wound edges became gradually more and more undermined, and the surface always had a dull-whitish exudate or slough upon it. Hearing me speak of the condition found in Case 1, Dr. Bagley suggested that I should investigate, bacteriologically, the ulcer in question. Here again cultures of bacillus diphtheriæ were secured from every portion of the wound examined.

He was immediately given 6,000 units of antitoxin. It produced a definite result. For a few days the change was remarkable. In five days there did not seem to be as much gain, so he was given 9,000 units of antitoxin. This time it was given and Bier's hyperemia treatment was begun at once with the intention of producing a passive congestion. The improvement was very marked at once. Hot saline sponges were applied frequently, locally. Healthy granulations began to form at once where before they were destroyed by sloughs as soon as formed. By July 15th skin-grafting was resorted to to fill in the gap. He left the hospital cured two weeks later.

It is of interest to know, in connection with these cases, that diphtheria cases were treated in the town and hospital from which these men

came. Further, that these cases had been treated during the time that the men went there for treatment. It is my belief that the diphtheria bacilli became lodged in these wounds, secondarily, by some contamination, either during the initial operations or subsequent dressings. This is also probably true of the case mentioned above as reported by Drs. Floyd and Worthington.

That the bacillus prevented healing and produced constitutional symptoms I feel there can be little doubt. As to the bacilli: Those isolated from the first case were passed upon by the main laboratory of the State Board of Health at Minneapolis, and declared to be the ordinary virulent forms. The bacilli from the second case were not similarly tested, but they were the usual forms found in ordinary throat-infection. Is it not possible that more chronic ulcers and sinuses may be thus prolonged? At a time when the vaccine therapy is being advanced, and its possibilities for good are promising, it is worth while to investigate bacteriologically such conditions as I have reported. And if we are fortunate enough to find that the bacillus of diphtheria is the offender, we can be sure that our patient will get well, that he will be very grateful, and that we shall have the great satisfaction of knowing exactly what to do.

I am indebted to Dr. W. H. Magie and to Dr. W. R. Bagley for the privilege of reporting these cases.

## FOREIGN BODY IN THE TRACHEA: REPORT OF A CASE\*

By D. W. RUDGERS, M. D.

YANKTON, S. D.

Rasmus Juul, four years old, son of John Juul, of Irene, S. D., while playing "smoke" with his little playmates, sucked a piece of a bone cigarette-holder,  $2\frac{3}{4}$  inches long by nearly  $\frac{1}{4}$  inch in diameter, into his larynx. He became asphyxiated immediately. His mother took him up, head up of course, and pounded him vigorously on the back. The bone became dislodged, but, unfortunately, it passed downwards, lodging in the trachea. The father soon took him to Dr. Beal, of Irene, who anesthetized him and examined his throat and esophagus, and also gave cathartics, but failed to find the foreign body. He therefore referred the case to me.

Not knowing just how far the doctor had gone in his examination, I called Dr. C. C. Gross, of Yankton, who administered an anesthetic. I thoroughly examined the pharynx, larynx, and esophagus, and found no foreign body, but while the boy was under an anesthetic we could hear a whistling sound in the trachea like air passing through a small tube, also mucous râles and asthmatic breathing. We therefore removed him to the Sacred Heart Hospital and prepared him for an operation, the foreign body having been in his trachea then 36 hours. Dr. Gross again anesthetized him. I opened the trachea at the lower tracheotomy region, and as the larynx was badly stenosed, as soon as air rushed in through the opening in the trachea the larynx closed like a clam shell admitting no air to pass.

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, S. D., September 2-4, 1908.



Also as the opening through the trachea was so much larger than the stenosed laryngeal opening, and as the lungs had been laboring to get enough air, the air rushed in so fast that the tube was sucked down and lodged in the right bronchus, which it completely filled; therefore the mucus which had collected around it was pushed up and sucked into the left bronchus, hence shutting off his breathing space almost entirely. Of course he immediately became cyanosed and near death. I passed my laryngeal forceps down the larynx to the bifurcation of the trachea and there in the right bronchus felt a hard substance, —and by the way if you never probed down the trachea to the bifurcation it is much further than one would think. By this time the boy was nearly dead, but Dr. Gross, by dint of great effort, kept him from dying,—I do not just know how, for I had troubles of my own. I think I made five or six attempts with my forceps, which had angular jaws on, before I succeeded in fastening to anything. When I did succeed I removed it very quickly, and I found one of the jaws of the forceps had passed into the hole. We then proceeded to resuscitate the boy, by elevating the feet and, while Dr. Gross pumped the lungs, I mopped the blood and mucus from his trachea. He gradually resumed regular breathing. I then inserted a tracheotomy-tube in the opening of the trachea, and stretched the skin on either side, fastened it in place and covered the opening with gauze, warm and moist, to prevent the danger of pneumonia. We covered his body with warm cotton, placed him in a warm room, with the foot of the bed well elevated, gave him an anodyne, and kept him quiet, all the time cleansing the tube and changing the warm, moist gauze over it. During the first night his temperature was 140°; pulse, 125 to 130; respiration, 39. He was very thirsty and took quantities of water in teaspoonful doses, poured against the roof of his mouth, so it could go into the esophagus without entering the larynx. In the morning the temperature was 102°; pulse, 110; and respiration, 30. He rested well during the day, and at the end of 24 hours had a temperature of 101°; pulse, 98; and respiration, 24, at which time I found that by covering the tracheotomy-tube he could resume breathing through his larynx, so I removed the tube, dressed the wound with gauze, and drew it well together with adhesive straps, so that it could be reopened easily in case of necessity, but he rested well that night, it being the second night, and I found his temperature in the morn-

ing to be 99°; the pulse, 90; and the respiration, 22; and he was feeling good.

In the evening of the second day we gave an anesthetic again and stitched the wound up tight passing sutures well down to the trachea, but not into it, and tied them up tight. He was a little restless that night from effects of the anesthetic, but from that time on he made an uneventful recovery, and in one week from the day he was operated upon he walked from the hospital to my office three-fourths of a mile, and went home with his father. One week later he returned, and I removed the stitches. He is now well.

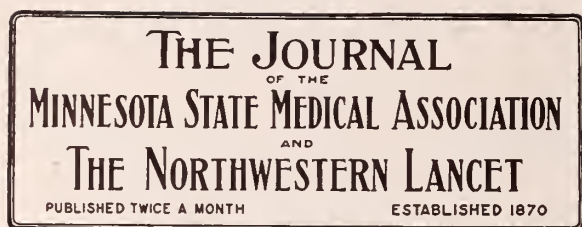
#### DISCUSSION

Dr. D. E. Arnold (Aberdeen): I do not wish to discuss the paper, but I would like to relate a rather coincident case. It was ten or eleven years ago when a boy was brought to me hurriedly. I was practicing in a little town without any other doctor within twenty miles. He was very much cyanosed and gave a history of throwing up a little pebble and catching it in his mouth. All at once it got away from him and lodged in his trachea. When he came to me he was blue, and by careful examination I thought I could locate the stone in the trachea. They insisted on my sending for another doctor to assist me, and by the time he got there, driving twenty miles, the stone had disappeared, and on examination we decided it was in the right bronchus. We did not care to go after it, in a little country town. We gave a guarded prognosis. The boy breathed somewhat better, but showed a dullness in the right lung. The trachea was clear. He went home, had a number of paroxysms of coughing that almost choked him, and it was just two weeks from the time he got the stone in his trachea until he had an unusually hard paroxysm of coughing and gave up the stone, and the father carries it as a lucky piece in his pocket today.

Dr. C. C. Gross (Yankton): If Dr. Rudgers will pardon me for calling attention to an omission on his part of one of the diagnostic signs, I would like to refer to it, and that is in regard to the location of the obstruction. I think it is quite a valuable point. We noted, after the boy was anesthetized and after the tube had evidently slipped down further and been drawn into the bronchus, that the right side of the chest was immobile, and that there was a repression or retraction of the intercostal spaces during the inspiratory effort. This aided the doctor in the diagnosis of the location of the obstruction caused by the foreign body lodging in the right bronchus. I think it is a valuable diagnostic sign.

#### A TRAY FOR HOLDING INSTRUMENTS DURING SURGICAL OPERATIONS

B. F. Jenness, U. S. Navy, describes a tray attached to a sheet which is intended to facilitate handling instruments during operation and to insure asepsis. It consists of a pocket sewn on the sheet, in which is slid an aluminum plate. All is capable of perfect sterilization. It is well to have three sheets, with the pockets attached at different points, at level of chest, abdomen, and knees.—Medical Record.



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## THE ROSTER, AGAIN

We are unable to publish the Roster in this issue, as one or two counties have not made their reports, and this gives opportunity for a word which, we think, ought to be spoken. It is, indeed, difficult to understand how men who have belonged to the Association for many years, and who will belong to it for many years to come, will allow the annual Roster to be printed without their names upon it simply because they have neglected to pay their dues.

The Roster is looked upon, both inside and outside of the profession, as a list of the best men in the state; and when a man, particularly if outside of the profession, examines the Roster and fails to find the names of one or more prominent men whom he may know, he very naturally draws one of two conclusions: the man whose name is not on the Roster is not in good standing or the Roster does not represent an organization of the best men in the state. We think no professional man desires to be the cause of either conclusion, one doing himself and the other doing the Association an injustice.

Will not all such men send their dues *at once* to their county secretaries, with the request that the same be sent to Secretary McDavitt without delay? Such action will add a score or more names to the 1909 Roster.

## MEDICAL INTERESTS IN THE MINNESOTA LEGISLATURE

As a whole, medical interests have fared well in the legislative meeting which has just come to a close. Some meritorious measures failed to pass, and some which did not altogether meet with the sanction of medical men went through. As a rule, however, both legislation and appropriations have been favorable. Reference is made below to some of the more important measures and appropriations.

The appropriations for the State Board of Health are about 60 per cent above those of last year. For laboratory purposes \$13,000 additional is allowed, and \$3,000 additional for branch laboratory purposes. For contagious diseases, including tuberculosis, \$9,500 was allowed, whereas \$15,000 had been asked for for tuberculosis alone; but inasmuch as only \$2,500 was allowed for this entire field at the previous legislative meeting, this is a very material advance. Sanitary engineering has \$2,500, as compared with \$1,000 previously. An appropriation which would provide the Board of Health with a traveling laboratory-car unfortunately failed of passage, as did also a bill giving the Board of Health control over any future water or sewage systems to be built in this state, except in the three larger cities. There appears to have been no objection to this bill except a fear of giving undue (?) power to the Board of Health.

A commendable bill gives counties the right to establish local sanitariums for tubercular individuals. The State Hospital for the Insane at Rochester was granted \$60,000 for a detention hospital, and St. Peter was given \$75,000 for a similar purpose. A bill providing for the county care of the insane failed to pass. Faribault was given \$150,000 for a new building, and \$37,000 for improvement of buildings already constructed. A bill setting aside a special ward for the care of incurable cases is to be provided in the future at Faribault. Unfortunately, the state institution at Walker for tubercular individuals failed to receive the support to which, in the opinion of medical men, it is entitled.

The University receives \$200,000 for a building that will provide for anatomy in all its phases, including embryology, histology, applied anatomy, and anatomy as ordinarily understood. Another \$200,000 is appropriated for a building which will take the place of Millard Hall, and also provide laboratories for physiology and pharmacology. Under these circumstances, Millard Hall will be turned over to the Department



of Pharmacy, and the present building for histology and physiology will be given to the Dental Department.

For the building of Elliot Hospital \$40,000 additional is allowed. This, with the other funds available, will, it is hoped, provide a building which will care for from 150 to 175 patients, especially if, as is now intended, other buildings on the campus are used for Nurses' Home, Amphitheater, etc., so that the hospital can be given over entirely to caring for patients.

We have already referred to the fact that a bill licensing a nondescript lot of would-be practitioners of medicine failed of passage.

### RELIGION AND MEDICINE

Religion and medicine began life hand in hand, and at one time, through the priest, the church served as spiritual adviser, physician and educator to mankind; but with the development of modern science these latter phases of church activity have gradually broken away, until, at the present, religion and medicine, at least, have become wholly estranged. As in other cases, the estrangement has been a gradual one, and it is difficult to say just when it began, but the last bond had certainly been broken when that stage in the development of medical science was reached where it was possible to assign diseases to some demonstrable cause instead of to an indefinite, minatory providence. In the minds of most men there is no longer any thought of a union between the two. It would seem, however, that, at least, part of the people are reluctant to admit the existence of a divorce, and there are still many who feel that it is better, and much more interesting, to suffer from a mysterious dispensation of providence than to have a derangement of the functions of the body, dependent upon ordinary causes and to be prevented or cured by common-place hygienic measures.

To such individuals a new idea as to the pathogenesis of disease or the method of its cure will always appeal with peculiar force, and therefore the element of novelty is a potent factor in the hands of any enthusiast.

Somewhat more than two years ago the claims of psychotherapy began to be heard with great insistency, and more recently it has assumed very considerable proportions in the shape of the Emmanuel movement. When the Emmanuel movement was launched, it was said to have with it the co-operation of such eminent neurologists as Dr. S. Weir Mitchell and Dr. James J. Put-

nam, of Harvard University. Both physicians have since publicly repudiated it, and it is said that at the present time not a single neurologist of standing in the city of Boston supports it. It is certain that the neurologists who first supported the movement have now absolutely nothing to do with it.

In the issue of the Boston Medical and Surgical Journal of January 21st it appears that a medical advisory board has been formed at Emmanuel Church, having for its object the regulation of the movement and the eliminating of certain abuses which seem to have already appeared in its practical operation. In the very next issue of the same journal we find further explanations and restrictions applied to the movement by the same advisory board, and in this second publication they state that they do not approve of Dr. Worcester's treating anyone who is not at the time the actual patient of some physician. They also add that they do not think this medical control has been heretofore exercised, and to that degree they disapprove of what has been done in the Emmanuel movement.

Making due allowance, then, for these difficulties in the practical working out of this movement which are dependent solely on the jealousy and opposition of physicians, due to their loss of patients, and which of course do not reflect on the fundamental principle of the Emmanuel movement that the executive co-operation of physicians and ministers is of value to sick persons, we still do not feel that the Emmanuel movement has been an unqualified success in the home city of its birth.

A press dispatch of April 22d states that Dr. Worcester has broken down from overwork, and that a prolonged rest will be necessary before he can return to his work. If, then, the movement has been a relative failure in the hands of men as well qualified as Dr. Worcester and Dr. McComb, each of whom is a finished student of psychology and eminently qualified for the work as any minister of the church can be, and who have had the active co-operation of some of the best medical men in America, what can we expect of the movement in other places where it has certainly fallen into the hands of men of whom, either as preacher or physician, it is charity to say nothing more than that they are less well qualified for the work than its originators?

The clerical head of the movement in Chicago, out of the fullness of his few months' experience, has given us a book in which he informs us that



functional nervous diseases were unknown until recent years, whereas it is a very ignorant medical man indeed who does not know that functional nervous disorders were enormously more common in the middle ages than they have ever been since, or, it is to be hoped, will ever be again. As a matter of fact, suggestive therapeutics was known to, and has been applied by, every medical man of any standing for ages, though it had not received concrete form until DuBois' well-known work appeared.

Though one would not suspect it from the attitude of those who have been prominent in the Emmanuel movement, it is a fact that practically everything that is known concerning psychotherapy at the present time has been contributed by physicians, a point which will be readily realized by anyone noting the authorities quoted in "Religion and Medicine." It is also worthy of note that in this work not a single reference is to be found to the psychotherapeutic work of Kraepelin, the master in mental medicine of today, though much is said of men greatly inferior. Indeed, it is difficult for most ministers to understand why a physician is not as well qualified to undertake psychotherapy as any other man can be. As respects knowledge of medicine, as ordinarily understood, and as respects scientific habits of thought, there can scarcely be any question that the physician is superior to the minister. Whether in force of personality, in sympathy for suffering, in depth of character, or in social service in those ways which make a man the friend and helper of his fellow-man, the medical profession, as constituted today, is inferior to the clergy, we leave to each individual to decide. There cannot be too much of social service to his fellow-man on the part of the physician, and we are glad to concede that Dr. Worcester has done much good in calling increased attention to a very helpful thing in treating functional diseases of the nervous system, but we believe that such means of cure as psychotherapy are most serviceable when under the control of physicians.

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## CORRESPONDENCE

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### A CORRECTION

Minneapolis, April 20, 1909.

TO THE EDITOR:

In a recent issue of THE JOURNAL-LANCET the stenographer of the Hennepin County Society made me say that Prof. Barker of the

Johns Hopkins Hospital did not know the typhoid toxins. What I did say is that Prof. Barker had said that he does not know of any good results from the use of the typhoid toxins.

LESTER W. DAY, M. D.

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## REPORTS OF SOCIETIES

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### STEARNS-BENTON COUNTY SOCIETY

The Society met at St. Cloud on April 15, with eighteen members present.

Papers were read as follows:

"The Plague at Athens," by Dr. J. M. McMaster, Sauk Centre; "Vaccinia or Cowpox," by Dr. C. B. Lewis, St. Cloud; "A Woman Is Physically Degenerating," by Dr. Earnest A. Woods, Clear Lake; "Diastolic Sounds," by Dr. M. J. Kern, St. Cloud.

The papers were thoroughly discussed.

The election of officers resulted as follows:

President, Dr. Pierre C. Pilon, Paynesville; vice-president, Dr. M. J. Kern, St. Cloud; secretary and treasurer, Dr. J. C. Boehm, St. Cloud; censor, 3 years, Dr. E. J. Lewis, Sauk Centre; delegate to the State Association, Dr. W. L. Beebe, St. Cloud; alternate, Dr. C. B. Lewis, St. Cloud.

The next meeting will be held at Melrose, and Dr. P. A. Hilbert will entertain the Society.

It was moved and seconded and unanimously carried, that the proposed establishment of a system of medical defense by the Minnesota State Medical Association receive the endorsement of the Society, and that our delegate at the next meeting be instructed to act in accordance with such expression.

J. C. BOEHM, M. D. Secretary.

### MINNESOTA ACADEMY OF MEDICINE

The Academy met at the Minneapolis Club on Wednesday, April 7th. Dinner was served promptly at 7 p. m., and the meeting was called to order at 8:20 by the President, Dr. James E. Moore, with 34 members present.

After the business session Dr. C. H. Hunter, of Minneapolis, presented a case-report of sudden death following an operation for hernia, as follows: Mrs. D., aged 64, has had umbilical hernia for a number of years and also varicose veins of the left leg. She was operated on for hernia on March 24th. The Mayo operation was done, occupying about an hour, with no accidents or complications. Recovery was uneventful and uninterrupted with the exception of some

tympany and constipation. The wound was dressed the morning of the eighth day and was found completely healed. She had in the morning of the eighth day a dose of castor oil, which operated at four in the afternoon. At 5:20 she called a nurse, complaining of feeling faint. A dose of whiskey and hot peppermint was followed by eructations and some relief. At 5:50 she was feeling worse when the interne was called, who found her cyanosed, apneic and apprehensive. No pulse could be felt at the wrist. She was conscious and murmured "What can be the matter?" At 6:10 she was dead.

At post-mortem the wound was found united, with the exception of a tablespoonful of bloody serum lying between the fat folds. A stump of the mesentery had healed, and there were no signs of inflammatory or other complications in the abdominal cavity. An embolus the size of a lead-pencil folded on itself was found in the left pulmonary artery. After diligent search in the abdominal, femoral, and vessels of the legs, for the origin of this embolus, none came to light.

In Vol. IV of Osler's *Modern Medicine* in Blumer's article on Embolism, reference is made to an explanation of embolus occurring after abdominal operations, by Dr. Clark, who has found that the embolus originates in a thrombus occurring in the epigastric vein, due to their rough handling by retractors, etc., during such operations. This vein was not examined in our case.

The question arises as to whether an extensive cross-cut, as may occur in the Mayo operation, can interfere with the venous circulation in such manner as to favor thrombosis in these vessels. If so, or if such accidents occur frequently after such operations, then such an incision might be considered objectionable. This is the second death from pulmonary embolism occurring after laparotomy in the city that I have heard of this week. It is also the fifth death after umbilical hernial operation among those that have occurred the past winter.

Dr. W. A. Dennis reported a similar case occurring in his practice last winter in a woman on whom he had operated for fibroid tumor of the uterus. He had noticed nothing unusual in the patient's appearance before operating, except that she looked somewhat cachectic. She did well for a few hours and then died within ten minutes after the nurse had first noticed that something was wrong. Autopsy revealed an embolism of the pulmonary artery.

Dr. A. W. Abbott thought that these two cases were due to entirely different conditions,

In Dr. Dennis' case the condition was pre-operative, in the form of a thrombosis, for instance, and this occurrence often takes place in acute appendicitis operations and others. Dr. Hunter's case, on the other hand, was due to traumatism of the vessels during operation.

Dr. Mann cited a case in his experience in which sudden death had followed within a few hours the very simple operation of draining an appendiceal abscess through the vagina.

Dr. Gilfillan exhibited a heart removed from the body of a laborer, 55 years of age and alcoholic. The man had complained of "feeling very queer," but had walked to the car, ridden out to the hospital, and walked in to his bed. He had grown rapidly worse, however, and died the next day. Autopsy revealed a large hemopericardium. The heart-valves were slightly thickened, but not insufficient. The coronary arteries were diseased. The kidneys were not contracted, but they were probably somewhat diseased. There was a plaque in the wall of the aorta around which there was a tear, and through this tear the blood had escaped by way of a long dissecting aneurism to the pericardium, causing death.

Dr. Arthur T. Mann, of Minneapolis, showed a larynx which he had removed three days ago from a man of sixty-nine, for carcinoma of the larynx. The symptoms dated back some eighteen months, during which time he had had more or less active trouble with his throat and on several occasions had had small pieces of a growth removed through the glottis. The patient was in a desperate condition when admitted to the hospital. He had become so closed-in with the growth that a small additional amount of mucus plugged the air-passage completely, and he had ceased to breathe. The interne, Dr. Strachaner, immediately resorted to artificial respiration and sent for the oxygen apparatus. This availed for only a very short time, and the patient stopped breathing altogether. Then the interne left the patient, rushed for a knife and one pair of forceps, hurried back and cut through into the trachea, inserted the forceps, and opened them and then continued artificial respiration without avail until he decided that the man was dead, but before giving up entirely the doctor gave three more efforts at respiration and succeeded in getting a small gasp. After this the patient recovered rapidly and was in good condition when Dr. Mann arrived. Dr. Mann then completed a proper tracheotomy and inserted a tube. Twelve days later he performed



the complete excision of the larynx. So far as known this is the only complete excision of the larynx which has been performed in the Northwest, except one case done by Dr. Chas. Wheaton some twenty-five years ago on a patient who died on the fourth day.

The patient took the anesthetic beautifully. No shock was apparent during or immediately following the operation. The patient swallowed three ounces of milk without regurgitation and without much effort, when allowed to try, twenty-one hours after the operation, and he has swallowed liquid nourishment up to the present time, the beginning of the third day, without regurgitation. The patient was put down upon the level at the end of the first twenty-four hours and allowed to be up in a half-sitting position at the end of the second twenty-four hours and tonight (in the beginning of the third day) the patient is sleeping on a level, breathing quietly; and he has needed no morphia since the operation was performed.

The specimen showed the larynx almost completely closed with the tumor growth so that it seemed almost impossible that there could have been enough space for breathing to have kept him alive long enough to reach the hospital. There was extension of the growth to the outer surface of the thyroid cartilage, but no secondaries were found in the neck, so the case may be considered fairly hopeful from the standpoint of recurrence.

At present the patient is breathing through the end of the trachea sewed to the skin a short distance above the episternal notch, and of course the voice is lost. An apparatus may be fitted, however, which may enable him to whisper with ease, and if a musical reed be inserted into this he may be able to speak in such a tone as the musical reed may give, but otherwise he would be able to form his words correctly and easily.

Dr. Dunsmoor stated that he had seen Dr. Wheaton make this operation twenty years ago, but the man died on the fourth day. He suggested rectal administration of an anesthetic for operation in this region.

Dr. Moore said that he had witnessed Dr. Mann's dissection, and that the patient had made no break in his breathing when the nerves were cut.

Dr. Dunsmoor presented a clinical case of amebic dysentery in a young man who had been in the navy in the Philippines. He had been given the ipecac treatment without success. Also

a strong solution of quinine was used, but without permanent result. Dr. Dunsmoor had given argyrol irrigations with success.

Dr. J. E. Moore reported a case which had been first seen by Dr. Stewart, who said it should be appendicitis. He had never seen such abdominal rigidity. There had been many attacks of colic, also inflammatory attacks. Operation was made and the appendix removed, but thinking that this could not cause all the trouble, further investigation revealed an over-distended bladder. This was emptied with the thought that perhaps it caused the rigidity, etc. Going still further, however, it was found that one foot of the ileum had become invaginated. This was reduced, and just as the operation was finally thought complete a nodule was discovered inside the bowel. This proved to be an inflamed and enlarged Meckel's diverticulum. This was removed and a complete recovery followed. The specimen was exhibited. Dr. Moore thought the case emphasized the necessity for careful investigation for other things even when an adequate cause for symptoms has been found and removed, for had he stopped at any one of the three steps in this operation the patient would certainly have died.

Dr. Dunsmoor cited a recent case in which he had found and removed a supernumerary appendix.

Dr. J. Clark Stewart then read a paper entitled "Adenocarcinoma of the Breast, with Observations as to Its Comparative Benignancy." He exhibited the gross specimens, microscopic slides, and microphotographic pictures illustrating the cases reported.

Dr. John T. Rogers read a paper on "Invagination of the Bowel Due to Inflammation at the Base of the Appendix, with Report of Two Cases."

ARTHUR W. DUNNING, M. D., Secretary.

## GOODHUE COUNTY ASSOCIATION

The Association met in regular session at Red Wing on April 6th, fourteen members being present. The full program went through as announced. The first paper was "Glioma of the Retina," by Dr. Thos. McDavitt, of St. Paul.

Dr. McDavitt was the guest of the Association, and his paper was well received.

Dr. M. W. Smith read a paper on "Goiter," and Dr. N. L. Werner on "Some Interesting Cases of Hernia."

These papers were all freely discussed.



The Society was much interested in Drs. Cremer and Haessly's medical clinic.

One new member, Dr. C. B. McKaig, of Pine Island, was received into the Association.

The next meeting will be on July 6th.

A. T. CONLEY, M. D., Secretary.

#### THE MINNESOTA VALLEY SOCIETY

The thirtieth semi-annual meeting of the Society will be held at Mankato on Tuesday, May 4th, with the following papers on the program: "Typhoid Fever," by Dr. A. O. Bjelland; "Diseases of the Lachrymal Duct," by Dr. J. H. James; "Diseases of the Esophagus," by Dr. H. S. Plummer; "Some Atypical Cases of Gall-Stones," by Dr. J. W. Andrews; "Clinic on Psoriasis," by Dr. Burnside Foster; "Report of a Case of Carcinoma on the Diverticulum of the Sigmoid," by Dr. H. Z. Giffin.

A. G. LIEDLOFF, M. D., Secretary.

#### MOWER COUNTY SOCIETY

The Society met in Austin on April 14th, with nine members present. Papers were read as follows: "A Few Blood Examinations and Examinations for Blood Which the General Practitioner Can Readily Make," by Dr. G. J. Schottler, Dexter; "The Medical Treatment of Cholelithiasis," by Dr. E. V. Smith, Adams; "Report and Demonstration of a Clinical Case," by Dr. A. W. Allen, Austin; "Report of Clinical Case," by Dr. H. F. Pierson, Austin.

A free discussion followed the papers.

O. H. HEGGE, M. D., Secretary.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. N. P. Pearson has located at Onamia.

Dr. O. L. Bertelson will resume practice at Crookston.

Dr. Allen S. Whetstone, of Minneapolis, died last month.

Dr. H. R. Weirick has resigned the mayorship of Hibbing.

Dr. R. L. Allison, of Vivian, S. D., has located at Oelrichs, S. D.

Dr. Martin H. Marken, of Rosholt, Wis., has located in Dawson.

Dr. H. E. Levin, of North Lake, Wis., has located in Erskine.

Dr. R. H. Kinney has moved from Minneapolis to Lake Benton.

Dr. Gaylord Worstell, of St. Paul, has moved to Belle Plaine, Iowa.

Dr. Joseph Phelps has located at Hot Springs, S. D., as assistant to the Nichols Sanitarium.

Work has been begun on the building of the Barnes County Hospital at Valley City, N. D.

Dr. A. H. Thornton has located at Buffalo Gap, S. D. He formerly practiced at Alliance, Neb.

Dr. Thomas Fulton, of St. Paul, was married last month to Miss Anna Stevenson, also of St. Paul.

Dr. X. W. Whitman, of St. Paul, was recently fined \$100 for practicing medicine without a license.

Dr. H. J. Leigh, of Carroll, Iowa, has purchased the practice of Dr. Frank R. Hansen, of Lakefield.

Dr. C. E. Reeves has moved from Kelliher, where he had charge of a lumber company's hospital, to Wadena.

Dr. W. J. McRoberts, of Hot Springs, S. D., is taking a post-graduate course in Chicago and Philadelphia in electrotherapeutics.

Dr. W. T. Duncan, of Fergus Falls, died on April 7th at the age of 53. He had practiced in Fergus Falls for twenty-five years.

Dr. Elliot Reed, of Pierre, S. D., has decided to locate at Hot Springs, S. D. He will confine himself to genito-urinary practice.

Dr. W. W. Brown, who formerly practiced at Cleveland, in this state, and moved to Ladysmith, Wis., has located at Garrison, N. D.

Dr. T. R. Ranney, of the More Hospital of Eveleth, has been appointed assistant surgeon of the Illinois Central Railroad, with headquarters at Chicago.

Dr. Victor C. Vaughn, of Ann Arbor, was in the Twin Cities last month. He came to deliver an address at the annual meeting of the Hennepin County Medical Society.

Dr. Thor Moeller, of Minot, N. D., who was convicted of performing a criminal operation which resulted in the death of the patient, has been sentenced to ten years in the penitentiary.

Dr. F. W. Schultz, of the Fabiola Hospital, of Eveleth, sails for Europe next month, and will be absent over a year, studying diseases of children. Dr. Schultz will locate in Minneapolis upon his return.

A so-called "beauty doctor" of Minneapolis, H. E. Coger, has a serious case on hand, it having been charged that an operation performed by him on a North Dakota woman for the removal of a scar resulted in her death. His license has been revoked by the State Board of Medical Examiners. The license, No. 2462, was granted at the January meeting upon credentials and affidavits which have been shown to be fraudulent and false.

### LICENSED TO PRACTICE IN NORTH DAKOTA

At the April meeting of the North Dakota State Board of Medical Examiners licenses were granted to the following:

#### UPON EXAMINATION

Coffin, E. H. . . . . Dogden.  
 Howe, E. M. . . . . Petersburg.  
 Liedahl, O. S. . . . . Palermo.  
 Murphy, F. E. . . . . Fargo.  
 Sherpard, T. P. . . . . Cando.  
 South, J. A. . . . . York.

#### BY RECIPROCITY

Chagon, J. S. . . . . Towner.  
 Clay, A. J. . . . . Boden.  
 Du Bois, W. S. . . . . Towner.  
 Givin, R. B. . . . . Cleveland.  
 Movius, A. H. . . . . Lidgerwood.  
 Simms, L. B. . . . . Hillsboro.  
 Steele, E. G. . . . . Barlow.  
 Wentz, H. D. . . . . Verona.  
 Whalen, R. H. . . . . Fargo.  
 Wordoff, G. E. . . . . Hettinger.

\*[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### PRACTICE FOR SALE

I am going to the coast, and will turn over my practice to the purchaser of my office building, a good-paying property; part cash and part on time. Practice will pay \$3,500; in a manufacturing, railroad-division town, with good farming community, 100 miles from Twin Cities. Address M. S., care of this office.

#### PRACTICE FOR SALE

Practice that pays \$3,500; can be increased by \$1,000 or more; established 15 years; in growing county-seat of 1,200 inhabitants; 95 miles from Twin Cities. Practice goes to purchaser of my 14-room residence, with barn and large shady lots, in choice residence section.

which cost me \$6,000. Will sell for \$5,000 (\$1,500 cash; balance \$50 monthly), and remain long enough to introduce successor. Address L. M., care of this office.

#### PRACTICE FOR SALE

A well-established practice in the best town in South Dakota; collections unsurpassed; fees the highest; and for a Homeopath there is no competition, as the subscriber is only Homeopath within 60 miles. Good reason for selling, and full information will be given anyone wanting to establish himself in practice where good money can be made from the start. Address G. A., care of this office.

#### PRACTICE FOR SALE

An unopposed \$3,000 practice, with real estate and small drug-store, will be sold for \$3,000. Investigate this. References are expected and will be given. Address Medicus, care of this office.

#### PRACTICE FOR SALE

In an Eastern Minnesota town of 1,000 mixed population. Practice pays \$4,000 a year. Will give good-will and introduce the physician who buys my hospital and office fixtures. Price and terms on inquiry. Best of reasons for selling. Address T. M., care of this office.

#### PRACTICE FOR SALE

One of the best \$2,500 practices in a county-seat town of 1,200 in northern Minnesota, with complete office equipment and driving outfit. Office contains x-ray, rolltop desk and Allison table. As I want to leave soon to accept another position will sacrifice the outfit for \$1,200 cash. Address F. P., care of this office.

#### AUTO FOR SALE

A Holsman No. 3; ran one season; leather top with storm front and side wings; Prestolite tank and Solar gas lamp; new Diamond tires; full equipment of tools; two brass kerosene lamps, tail-lamp, and horn. Guaranteed in first class condition. Will consider trade on touring-car. Address Dr. W. P. Lee, Fairfax, Minn.

#### PHYSICIAN WANTED

Good doctor for a Minnesota town of 200 in center of a territory with an average radius of fifteen miles and containing three other small towns. No competition. Good opportunity for doctor with drug-store. Regular physician preferred. Address G. M., care of this office.

#### PHYSICIAN WANTED

There is a very desirable location for the right man in a village (county-seat) of 1,300 inhabitants in north-western Minnesota. The right man can make from \$2,500 to \$3,500 the first year, and the citizens will help to build a hospital which is much needed, and will greatly increase the physician's income. The best man in the county is leaving the location and asks no pay for his practice. Address R. H., care of this office.

*Physicians, Attention.*—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work.*—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## THE EVOLUTION OF THE SUPERMAN\*

BY VICTOR C. VAUGHAN, M. D., LL. D.

ANN ARBOR, MICH.

This is the centennial year of the birth of Charles Darwin, and the semicentennial of the publication of his great book on the origin of species. The general conception of Darwin's theory of evolution has permeated all classes of educated and thinking people, and his teachings have been consciously or unconsciously accepted by a large majority of these same people. I take it that most thinking people now hold substantially the following beliefs: That primitive man was a savage, but slightly removed intellectually and morally from the beast. His habitations were of the rudest kind and furnished only imperfect protection against other savages, whether of his own or of different species. He made no laws and obeyed none save that of self-preservation. He tilled the soil not at all or but poorly, and he fed himself upon such fruits, berries, vegetables, and small animals as nature provided for him, or such larger animals as he was able to slay. He had no literature, not even an alphabet, and his language was crude in expression, and limited in range. He built no cities, established no industry, and carried on no commerce. He sought shelter in caves, as is shown by the presence of his bones in such localities, or he built his home, if such places could be called homes, on peaks and rocks difficult of access, as is proven by the homes of the cliff-dwellers of the Rio Grande and Colorado,

or he found refuge in crude constructions placed beyond the reach of savage animals in the water, as is demonstrated by the relics of such habitations found in the cannogs of Ireland and the pfahlbauten, or pile-dwellings, of the Swiss lakes.

It is not my purpose to attempt to trace the slow and laborious development of man from the stone age to the highest civilization of the present. If we confine ourselves to the time that has passed since the condition of man was first recorded in writing, we must be convinced that in his primitive state his life was precarious and short, his intellect was feeble and untrained, and his sense of moral obligation was wanting. These facts must be evident even to the superficial student of history. In the seventeenth century the mortality-rate in the city of London, so far as it can be ascertained, was not less than 70 per thousand, and during a part of that time it was as high as 80. During the next century it fell to about 50, but fluctuated largely with recurring epidemics. In the nineteenth century it gradually fell, and now it is 14.3. The rapid fall in the death-rate during the past one hundred years would not have been possible had not the discovery of vaccination for smallpox been made. Improved sanitation has also been an important factor in increasing longevity. The introduction of wholesome water, and the proper disposal of sewage and other forms of filth have decreased the prevalence of typhoid, and the recognition of

\*An Address, delivered at the annual meeting of the Hennepin County Medical Society, April 19, 1909.



the cause of typhus has enabled civilized man to practically strike this disease from the list of ills that afflict mankind. It is quite impossible for us to fully realize the extent to which epidemics once swept over large cities, and we are amazed at the indifference with which our ancestors regarded the high death-rate. Soon after the introduction of inoculation for smallpox an unknown writer stated, in the *London World* of June 5, 1755, that prior to the introduction of this method of dealing with smallpox, London, thanks to the ravages of this disease, was tolerably roomy; people preferred to stay at home in the provinces rather than come to London and catch the disease. "But now," he adds, "this danger has disappeared, and London is most inconveniently crowded. This inconvenience has, in a great measure, been hitherto prevented by the proper number of people who were daily removed by smallpox in the natural way, one at least in seven dying, to the great ease and convenience of the survivors; whereas since inoculation has prevailed, all hopes of thinning out people in this way are at an end, not above one in three hundred being taken off, to the great incumbrance of society."

This is an illustration of the heartless way in which our ancestors of less than two hundred years ago regarded the ravages of epidemics. In like manner, our descendants will be appalled at our seeming indifference to the prevalence of such diseases as typhoid and tuberculosis, and the historian of the future will have no difficulty in convincing his readers that we who lived at the beginning of the twentieth century were in many respects not far removed from barbarians, as he tells how 50,000 of us died annually of typhoid, and about four times that number of tuberculosis; both diseases that we knew how to prevent and to eradicate, but that we failed to do this because of our indifference, or on account of our eagerness in the pursuit of riches. Even in Republican Rome the plebeians were regarded by the patricians with contempt, and Cicero, whose eloquence sometimes led him to embrace all citizens, and demand protection for their altars, their hearths, their penates, etc., spoke his real opinion of the poor working people when he said: "All gains made by hired laborers are dishonorable and base, for what we buy from them is their labor, not their artistic skill; with them the very gain itself does but increase the slavishness of the work. All retail dealing, too, may be put in the same category, for the dealer will gain nothing except by profuse

lying, and nothing is more disgraceful than untruthful huckstering. The work of all artisans is sordid; there can be nothing honorable in a workshop" (*De Officiis*, 1, 42, 450). Fowler (*Social Life at Rome*, 1909) says: "The common lodging house must have been simply a rabbit warren, the crowded inhabitants using their rooms only for eating and sleeping, while for the most part they prowled about, either idling or getting such employment as they could, legitimate or otherwise."

I assume that all intelligent people, even those who have but scant knowledge of history, are ready to admit that the human race had its beginning in a barbaric or savage state, and that its upward climb in material, mental, and moral betterment has been slow and laborious, with many atavistic lapses. The questions that now arise are these: Are we satisfied with our present state, and, if not, how shall we best proceed to improve it? May we look forward to the evolution of the superman, and, if so, what can we do to contribute to his coming? It seems to me that the future of the race is to be determined largely by the activity of the present. Man's salvation lies in his own hands. He has advanced to a degree of intelligence which, if properly employed, enables him to lift himself to a higher plane of life, from which future generations may climb the more lofty peaks of human endeavor and approach more nearly the promised land of human perfection. It may not be given to us to solve the riddle of the universe, but this need not deter us from doing the duty that lies so plainly before us, and the highest duty and the most exalted privilege that comes to man is to labor for the uplift of his race. Men are mortal, but man is immortal. The individual lives are at best but a span, but the race continues. Numberless finites make up the infinite, and yet the soundness of the part determines the perfection of the whole.

Man is first of all an animal, and the first step in his betterment is the improvement of the physical man. No philosophy that ignores this fundamental principle can be sound. No religion that neglects man's physical condition and his material environment can endure. No government that fails to protect its citizens against disease can long continue.

Man is yet far from physical perfection. His days are short and full of infirmity. Accident and disease await him when he rests at home or labors abroad. Infection, nourished by the ignorance, indifference, or greed of his fellow-man,

lurks about him at his place of business, and pursues him in his pleasures. The individual, however wise and careful he may be, is not always able to protect himself or his family from the sanitary sins of others. The suppression of disease is a community problem in which each individual has his part to perform, and for every infection someone is responsible.

When we consider that in this country there are annually not less than one-half million cases of typhoid fever; that nearly 200,000 are dying of tuberculosis; that every hunchback and every-one lame from hip-joint disease owes his infirmity to infection; that more than one-fourth of the children born in the civilized world die before they reach five years of age, we need no farther argument that man's physical state is far from ideal.

The infectious diseases constitute a great bar to human progress. They slay their thousands, cripple their tens of thousands, and impoverish other thousands. The actual annual cost of these diseases in sickness and death amounts to a sum which, if properly expended, would in a few decades practically free us from them. Typhoid fever alone is costing this country annually something more than \$100,000,000, a sum which, if wisely expended, would within less than twenty-five years place a perfectly safe water supply in every city and village in the country.

When we talk about the infectious diseases, we have to meet the apathy and superstition of countless ages during which it was believed that these diseases were sent by heaven. Even the most advanced among us have scarcely awakened to the realization that disease is due to man's ignorance, and is not the messenger of a vengeful God. A new generation, possibly several new generations, will need to be born before we shake off our superstition concerning the causation of disease. The superstitions of our fathers cling to us with a tenacity that bars our progress. Indeed, there is at present a widespread mental epidemic among us, an example of atavism, that tends to carry us back to worship at shrines, or to the substitution of the prayers of the ignorant for sanitation. This is an evidence of the tendency ever present in man to lapse into the mire of superstition, from which he has not yet fully extricated himself.

In my opinion the most promising move toward the emancipation of man from the bondage of the infectious diseases is the provision for instruction in the causation and prevention of these diseases to the children in our public schools.

There has been a law to this effect upon the statutes of Michigan since 1895, but it has been largely a dead letter, because the average teacher in our schools knows nothing about the subject, and is too indifferent to seek information. I am glad to say that there are some notable exceptions to this. Some knowledge of the elementary principles of hygiene should be demanded of every person who aspires to be a teacher. As a result of the inherited indifference of which I have spoken, we entrust the health and the lives of our children at the most susceptible age to teachers who are absolutely ignorant of everything pertaining thereto. The daily inspection of the schools by physicians, now carried out in many of our cities, is of great value, not only in limiting the spread of infection by the removal of the infected, but also in an educational way, by the practical demonstration made to both pupil and teacher. There is one very hopeful thing in this, and that is, the young are quick to learn and they are still unshackled by the traditions and dogmas that bind the adult.

The question of health has been for so long regarded as one over which man has no control that this old superstition still casts its shadow over us. The influence of disease in retarding the evolution of man has never been and is not now appreciated by even the educated. The failure of the French to build the Panama Canal was due to their inability to cope with the diseases of the tropics, and not to their want of skill as engineers. Our government attempted for two years to carry on the work without attention to the sanitary problem, and this attempt cost much in time, money, and life. It remains to be seen how many lapses in sanitary neglect will be made before the work is finished. It is exceedingly difficult for man to throw off the habits of barbarism in which the race has lived for countless generations, and, as Stephenson has said, he is even now in his best examples a barbarian lightly tethered by some good impulses, and we do not have to look far to find numerous instances in which this light tethering is broken. We have violent and brutal illustrations in the acts of the mob. We have every-day examples in graft, on both a large and small scale, in which men, often those supposed to be most exemplary, barter their honor for riches, with the same savage instinct for show, pomp, and power that induced the uncultured Indian to exchange his fertile lands for glass beads. Lapse into barbarism occurred in a spectacular and appalling manner when, a few years ago, the combined



armies of the civilized world looted the capitol of China in much the same way and exactly in the same spirit as centuries before the Goths and Vandals pillaged Rome. The fact that some of the homes of our ultra rich are today decorated with the plunder stolen in that disgraceful campaign does not disturb the national conscience, nor does it affect the standing among us, in either a social or political way, of those who have received stolen goods.

Disease has operated as an important factor in the decay of national civilization and culture, and we are by no means sure that it may not do so again. When we compare the degenerate people of modern Greece with their progenitors of twenty-five centuries ago we ask what could have been the greatest factor in the national decay of this people? To my mind this question has received its first satisfactory answer in the recent studies of Jones. By a most careful and conservative investigation this author has rendered it at least highly probable that the introduction of the malarial parasite into Greece had much to do with the decline of the civilization of that country. He makes the following statements: "A few years ago the writer was investigating the change in the Greek character which took place in the fourth century B. C. The following results seemed then, and still seem, certain. There does not appear to have been any increase of immorality between, say 500 and 300, B. C.; but, nevertheless, morality changed, home-life took precedence of city life, patriotism decayed, and lofty aspirations almost ceased to stir the hearts of man. In art there appeared a tendency to sentimentalism; philosophy in many quarters became distinctly pessimistic; some schools of thought actually took "absence of feeling" or "absence of care" as the highest goal of human endeavor. Dissatisfaction and querulousness are marked characteristics of the age. By 300, B. C., the Greeks had lost much of their manly vigor and intellectual thought. The cause of this change appeared to the present writer to be partly the decay of religious feeling, and partly the growth of the human intelligence which resulted in dissatisfaction with existing institutions. Doubtless both of these tendencies were factors in the change, but they did not seem at the time of writing the earlier essay, and they do not seem now, to be sufficient by themselves. The recent investigation into the prevalence of malaria in Greece, and into the effects upon the inhabitants, suggests

that a similar agency may have been at work during the fourth century, B. C. Malaria, like influenza, differs from many other diseases in that it does not strengthen a people by weeding out the unfit. Its result is to produce a general lowering of vitality without bringing about a very large number of deaths. Malaria usually becomes chronic, at least until a comparative immunity has been gained. In such cases despondency and nervous debility leave a permanent mark upon the victim. It should then be carefully noticed that, quite apart from the actual facts of the case, malaria would tend to produce those characteristics which have been mentioned above." The author gives excellent reasons for the belief that malaria appeared in Attica in the fifth century, B. C. Possibly it may have been imported during the disastrous war carried on by the Athenians in Africa about 456, B. C., or it may have been brought from the Island of Sphacteria, a notoriously malarial region, which was visited by the Athenians in 425, B. C. In the fourth century, B. C., the disease had become endemic in Attica. The Peloponessian War drove the Attic farmers into the city, and the country, untilled and undrained, furnished the most favorable conditions for the development of malaria. From this time on there is abundant evidence in Grecian literature, both medical and lay, of the continued prevalence of this disease, and it remains even today holding the people in the bondage of disease. As to the existence of malaria in Greece at the present time, Major Ross, one of the most eminent authorities on this disease, has the following to say: "Modern Greece is intensely malarious. In the Copaic plain, examined by me last year, I estimated that quite half the children were infected, even in June, before the annual malaria season had commenced. The Attic plain is, and probably always was, much healthier owing to its dry climate; but numbers of other plains and valleys are certainly as bad as the one I studied. The Grecian Antimalaria League has collected excellent statistics on the subject, and these have been published by Drs. Snvas, Cardamatis, and others. For instance, it has been estimated that in the unhealthy year of 1905, out of a total population of only about two and a half millions, nearly a million people were attacked with malaria, and nearly six thousand died. Blackwater fever, the worst form of malaria, is exceedingly common. I have never seen, even in India and Africa, villages more badly infected than Moulki



and Skripose in the Copaic district. The Greek army is as heavily infected as was the Indian army until the last few years."

Major Ross speaks of the introduction of malaria into Greece as follows: "It seems likely that malaria was introduced into Greece about the time of the Greek invasions of Asia and Africa, by slaves or sick soldiers returning to their homes. It would require, say, half a century to obtain a firm hold of the country, and would then probably undermine that august civilization when at its height. Let us gaze for a moment at those magnificent marbles which have recorded forever the finest development of the human form—were these gods and heroes born out of the imagination of a people infected and degraded by malaria? What trace or suggestion of that disease would the well-trained eye of the medical man detect either in them or in the less idealized figures on the tombstones? I find it difficult to imagine that the people who produced this great sculpture and the no less magnificent science and literature of ancient Greece could have ever suffered very much from malaria. True, it may be said that the disease was present among them during the whole of the great age, but only to a slight degree; but this is difficult to understand, because the existence of even a few endemic cases would suffice, given the presence of the carrying agent, to produce a wide and rapid extension. On the whole, therefore, it seems probable that malaria would have reached its present degree of prevalence in Greece very shortly after its introduction, and must have been the cause, or a cause, of the rapid decline of the country after this great age, and not the result of that event."

The great and fatal epidemics mentioned by the Roman writers were quite certainly not malarial, because the parasites of this disease do not greatly increase the death-rate; they act insidiously, sapping the health and leading to slow processes of deterioration extending through generations. Jones makes it clear, however, that malaria did develop among the ancient Romans, and he is inclined to connect its introduction with the second Punic Wars. There is abundant evidence in Roman literature that quotidian, tertian, and quartan malarias were common, and one form was even then distinguished from the others. Jones finds the earliest reference to malaria among the Romans in the comedian Plautus, who died 184, B. C., and he quotes Terence, who died 159, B. C., whose language is explicit not only in showing the prevalence of

malaria, but also the recognition of the different forms. From that time on reference to the wide prevalence of malarial diseases, not only in the open country but in the city, is frequent and definite. Jones makes the following statement: "There is, then, every reason for supposing that malaria was unknown (in Italy) in early times, was well known at the beginning of the second century, B. C., and that it gradually became more common during the next two hundred years. If this be so, it is at least a plausible conjecture that it was introduced by Hannibal's Carthaginian mercenaries. Africa seems to have been the original home of the disease, and it is probable that some of his troops were infected. The constantly repeated devastation of Italy in the second Punic War would be sure to turn a large part of it into marshy land, thus affording a convenient breeding-place to the mosquitoes which were infected by the malaria patients among the Carthaginians. The similar condition of Attica during the closing years of the fifth century, B. C., offers a striking parallel. This opinion does not rest upon mere conjecture. We are told by Livy that in the year 208 a severe epidemic attacked Italy. It did not cause many deaths, but resulted in much lingering disease, that is, most probably, chronic malaria."

We have been quite generally satisfied with the statement that wealth with its consequent dissipation has been the most important factor in the decay of families, communities and nations, and to a certain extent this is true. But how does wealth lead to the deterioration of intellect and morality? The man who wears silk may be just as wise and as good as the one who wears cotton. There is no sin in exchanging a hard bed for a soft one. Food eaten from Haviland or Limoges is just as easily digested and as nutritious as that taken from plain dishes. Wealth may lead to physical, mental and moral deterioration, and its unequal distribution has often had this effect, but it does so through disease. Wealth surrounds its possessor with temptations, and through these he not only contracts disease himself, but disseminates it among others.

Some of us are quite old enough to remember when certain sections of our own country were thoroughly malarial, and we also recall the sickly, sallow, shiftless, apathetic people who dwelt in those regions. Even today we need to go no farther than to the West Indies, notably to Cuba, to find people thoroughly malaria-ridden. Indeed, quite one-half of the world remains today in the bondage of this disease, and no great

civilization can develop, or, having been developed under other conditions, can continue, when a large proportion of the people is under the degenerating influence of the plasmodium of malaria.

It has been assumed by some that epidemics of cholera, typhoid, typhus, and plague benefit the race in the long run by killing off the weak and favoring the survival of the fittest. Even the great philosopher of modern science, Herbert Spencer, fell into this error, and I have heard intelligent men say that all our modern efforts in sanitation are having the effect of preserving the weak and unfit, and are therefore detrimental to the race as a whole. This view comes from limited knowledge and the deduction of false conclusions therefrom. In the study of typhoid fever in our camps in 1898, my colleagues, Reed and Shakerpeare, and I showed most conclusively that the men who acquired and died from this disease were not the weak whose names were frequently found on sick-reports, but the most vigorous and robust among the soldiers. After a most thorough and painstaking study of this subject we stated our conclusions as follows:

"The belief that errors in diet, with consequent gastric and intestinal catarrh, induce typhoid fever, is not supported by our investigations. This belief, which was formerly held by many, is founded upon false conclusions, arising from erroneous conceptions of the etiology of the disease. Moreover, the early symptoms of typhoid fever are often confounded with those of simple gastric catarrh.

"The belief that simple gastro-intestinal disturbances predispose to typhoid fever is not supported by our investigation. As has been stated elsewhere, the members of this Board began their investigations with the belief, which seems to be quite generally held, that acute diseases of the gastro-intestinal tract render the individual more susceptible to subsequent infection with typhoid fever. However, our studies have forced us to come to an opposite conclusion."

Then we go on to show that out of 9,481 men who had previous diarrheal attacks, 648, or 6.8 per cent, contracted typhoid fever; whereas, of 46,348 men who had no preceding diarrhea, 7,097, or 15.3 per cent, developed typhoid fever. More than 90 per cent of the men who developed typhoid fever had no preceding intestinal disorder.

Under ordinary conditions the strong, busy man, especially the one whose activities demand

wide excursions from his home, is more likely to become infected with the bacillus of this disease than the one who is kept at his home, or whose range of activity is more limited on account of bodily infirmity. The reason for this is too obvious to need statement, and it follows that more men than women and more adults than children have typhoid fever. Then, the case-mortality is greater among the strong because death in typhoid and kindred infectious diseases is due to the rapidity with which the invading bacillus is broken up. This accounts for the fact, long known, that not only is the number of cases of typhoid among adults greater than among children, but the mortality is greater among those who become infected.

These facts hold good, not only for typhoid fever, but for many other acute infectious diseases, such as Asiatic cholera, typhus fever, smallpox, and the plague. Epidemics of these diseases do not benefit the race by killing off the weak and unfit, as has been assumed by some; on the contrary, they destroy men and women in the prime of life, in the midst of their greatest activity and at the period when their procreative capacity is at its height. Epidemics, like wars, are factors of the most potent kind in race and national decay. Not only do epidemics lead to physical deterioration, but intellectual stagnation and moral debasement follow in their devastating advance. If one wishes to know how bad the world has been, let him read the histories of the great epidemics that swept over Europe from the twelfth to the seventeenth century. The loss of life from disease was fearful, but yet more horrible are the accounts of the barbarous and atrocious crimes committed by the ignorant, depraved and superstitious people. Whole communities became thieves and murderers, and perpetrated their crimes in the most brutal manner.

Even the subacute and chronic infectious diseases, such as tuberculosis, in which bodily resistance is believed to play an important part, are by no means limited in their ravages to the weak and unfit. The strong and vigorous, with their more extensive and diverse activities, are more frequently exposed to infection and more frequently acquire it than the weak and infirm. This is shown by the high mortality from tuberculosis at the present time, and in this country, among those in the prime of life, reaching at it does more than 50 per cent.

In myxedema, or cretinism, a disease sporadic in this country and endemic in certain cantons of Switzerland, in which there is loss of function of the thyroid gland, we have an illustration of



the effects of disease on man. In this condition muscular movement becomes awkward, speech grows indistinct, and facial contour loses its expression; the eyes show no intelligence, and in marked instances the individual is so reduced in intellectuality that he is classed as an idiot. This lamentable deterioration is due to the failure of one gland in the body to function normally, and when the poor, pitiable wretch is fed with the extract of the thyroids of the sheep he quickly improves. The abnormal subcutaneous deposits melt away; the muscular system regains the ability to work smoothly and easily; the face, so toad-like in appearance, assumes human form; the eyes show that a brain lies behind them, and the individual becomes again a man of reason.

Hookworm disease, or *uncinariasis*, is another striking illustration of the effect of disease on the mentality of communities. This parasite is an intestinal worm, found abundantly among the poor, uncultured people of our southern states. It saps the vitality of the host and he becomes a shiftless, lazy sluggard. The presence of adenoid growths is still another striking illustration of the effect of the diseased body upon the mind. The mouth-breathing, staring dunce is seen in nearly every school, and when the abnormal growths are removed the intellect shows a quickened perception.

When we hear the statements that I have been making concerning the debasing effects of disease on man, our minds are filled with sympathy for those thus afflicted. We are sorry for the poor Greek whose bodily health, mental strength, and moral sense were depraved by the invisible and insidious germs of malaria, and truly we can see how much his memory deserves our sympathy. He had no microscope, and how could he detect or even suspect that the mosquitoes, which probably had annoyed his ancestors for generations, had armed their lancets with deadly poison? The Greek had never heard of quinine and the other cinchona alkaloids. He did not know the land whose forests were even then elaborating these products which centuries later proved of greater value than gold to man, and proved to be an essential help in the uplift of mankind. The philosophy of Plato, the wisdom of Socrates, the plays of Aristophanes, the laws of Pericles, nor the science of Aristotle could save the Greek from the demoralizing effects of disease, and under its withering touch the civilization of this great people slowly but surely decayed. Its matchless marbles were thrown into the waste-heap; its magnificent tem-

ples crumbled; its altars were deserted: its literature became insipid; its philosophy lost its virility; and its people sank into the semibarbarism from which even now, more than twenty centuries later, their descendants have not emerged.

But I do not come before you as a mourner over the departed glories of Greek and Roman culture and learning. I am here to speak for the present, for our own generation, and for our own country. Are we free from the bondage of disease? Are we hampered by epidemics in advancing ourselves in the scale of existence? Are our muscles as supple and strong as they should be, and as they would be had we no taint of disease, either inherited or acquired? Are our brains as clear and as strong as they should be, and how about the quality of muscle and brain that we are to transmit to the next generation? There can be no difference of opinion concerning the answers that must be made to these questions. One out of every seven of us dies of tuberculosis, and one out of every three or four of us has some evidence of this infection. One-half million of us become infected annually with typhoid fever. Pneumonia, diphtheria, scarlet fever, and other infections cut down the living prematurely, and lie in wait for the unborn. More than 80 per cent of all deaths are due to preventable causes, and still we do not prevent and indeed we make but little effort to do so. We cannot evolve the superman in this way. If we are to engage in this great work, we must first of all free ourselves from the curse of disease. During the past half century we have learned much, but nothing more important than the great truth that disease in its frequent manifestations is not inevitable; that it does not come as an infliction from the gods; that it is not due to fate, but that it results from our own ignorance and stupidity. The one thing that we should do above all others is to free ourselves from unnecessary disease.

How is man to be freed from disease? In the first place, it is necessary that the knowledge that we possess concerning the transmission of disease be disseminated among the masses. Some of our state boards of health are doing excellent work in this direction, and I must mention in this connection the most praiseworthy efforts of the Indiana State Board of Health in diffusing information concerning venereal diseases. This is a matter of the most vital concern to the future of the race, and one which through mistaken ideas we have heretofore simply declined to dis-



cuss. The educational possibilities along this line are great, and the benefits that are likely to follow propaganda of this kind will soon be seen and understood. In the second place, our public schools must impart that instruction which concerns the health of the individual and of the community as a whole. In order that this may be done, it will be necessary that our teachers are trained in matters that pertain to the health. A general knowledge of the cause and transmissibility of all the infectious diseases should be demanded of every teacher in our public schools. Our boards of health, both state and local, must be more liberally supported financially and morally. They must have more authority, and the scope of their work must be extended. We must have a higher appreciation of the old Latin proverb, *Salus populi suprema lex est*, and we must realize that the safety of the people is not threatened by some foreign foe, but by disease due to ignorance. The campaign is to be waged with the knowledge that scientific discovery has equipped us.

In freeing the people from disease the medical profession must play an important part. Medical investigation into the nature and causation of disease must be encouraged. Our medical schools must be centers for not only the dissemination of knowledge, but for its acquisition. Original research along the lines of preventive medicine must be centers, not only for the dissemination of bacteriology, and pathology must be enlarged and more generously supported, and the attitude of the medical profession toward the public and that of the public toward the profession must be quite radically changed. Up to the present time the medical student has been trained largely, if not wholly, with reference to the good of the individual who happens to be his patient at the time. This training must be modified, and the coming medical man must be developed largely with a view to his relation to the public. His principal function must be to prevent rather than to cure disease. The physician's duties are to become more and more largely official in the sense that his services are to be rendered to the community, and not exclusively to the individual. I imagine that the time will come when people will go to the physician to find out whether they are really well or not, and not wait until they know they are ill. They will go for examination and advice rather than for treatment. Ultimately, everyone will be examined twice or oftener each year, and no two consecutive examinations will be made by the same physician. A record

will be kept of each examination, and when the individual ultimately dies, a careful autopsy will be made upon every person. At first these things will be voluntarily done by intelligent people, and later others seeing its advantage will adopt the method. Finally, it will be compulsory with all, and will result in great good to the whole. The value of a custom of this kind in case of many of the infectious diseases, both to the individual and to the public, is evident. Take tuberculosis as an illustration: The physician is now so equipped in the recognition of this disease that he can detect it in its earliest stages when it is amenable to proper treatment, which is of benefit to the patient himself, and before the victim becomes a possible source of danger to others, and this is a service to the public. By means of careful physical examination supplemented with the ophthalmic and cutaneous reactions, slight tuberculous changes in the body may be detected with certainty, and still most people with this disease wait until cure is impossible. If people were frequently examined we should not be cursed with the venereal diseases as we are. The young man who goes wrong would be sent to the hospital or other place of observation and detained until he ceased to be a source of contagion. Mental diseases also need this kind of treatment. The man or woman who is addicted to alcoholism would be placed where he or she could not gratify a depraved appetite, and continue in the bad way. If such a system as I have briefly and imperfectly outlined here should be adopted, life would be prolonged, disease would decrease, our insane asylums would not be so crowded, and the race would be far on the way to the development of the superman.

It must not be understood that the evolution of the superman is the special function or duty of any profession or of any class. This can be accomplished only by the combined effort of all intelligent men and women. It may not be given to us to solve the riddle of the universe; we cannot tell from whence we come nor why we are here, nor can we name the country toward which we travel. Indeed, we are by no means sure that as individuals we are to have any other than the present ephemeral existence, but we do know that our deeds are immortal and that each of us, be his social position high or low, influences to some small extent, either for good or ill, the generations that are to follow.

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### DR. VAUGHAN'S ADDRESS

It is with much pleasure that we call attention to the scholarly paper of Dr. Victor C. Vaughan, on "The Evolution of the Superman," which appears in this issue of THE JOURNAL-LANCET. Articles such as this, dealing with the problems of preventive medicine, should be in the hands, not only of medical and scientific men, but of the general and unscientific public, which, at the present time, is suffering from a well-nigh toxic dose of pseudoscience and near-religion. An antidote made up of common sense, logic, and historical facts and figures, as here presented, may be taken *ad libitum* and *ad infinitum*. It is characteristic of the present day and of this nation, possibly as the result of universal so-called education, that every man feels himself quite competent to pass judgment on any and all subjects, whether scientific or religious, political or social; and this without any special training or knowledge whatsoever. As a result, these snap-shot thinkers are at the mercy of every charlatan and imposter who cares to interest them, and we all number on our list of friends many who drift from one patent panacea to another, both in medicine and religion, with a pathetic confidence in each, and with a perfect ignorance of fundamental principles, which would be ludicrous were it not so far-reaching and serious in its effects. Society is riddled with

"new-thought" views on all sorts of subjects to such an extent that it might well make one pessimistic as to the power of culture and education to dispel the clouds of superstition and credulity.

When one finds himself at this point of pessimism and irritation, it is well to pause and recall that imperfection is to be expected in a creature not yet free from the shackles of barbarism. To have come to a realization of the fact that man is an animal, which, by slow and inexpressibly painful steps, has climbed the steep that stretches between the physical and intellectual planes, is to have obtained a view of life which makes for sanity, sweetness and toleration. When we look back over the rolls of history, and note the beliefs that have held sway over men, and when we remember how deeply rooted are superstition and love of the miraculous in the human mind, we may be glad to have attained even to our present incomplete state. When our righteous wrath boils over at the thought of the criminal carelessness in regard to human life, not only of individuals, but of corporations and governments, let us not forget that, at any rate, we do not expect to die in the bloom of our youth, nor do we rely upon our cities being made roomy by the ravages of disease and death. Most of us realize that disease is an entity—that it is due to errors somewhere though not necessarily in the mind; and we no longer regard it as a divine judgment, a demoniac obsession, or the result of witchcraft.

Assuredly, "The world do move."

### THE CONSOLIDATION OF MEDICAL TEACHING IN MINNESOTA

One year ago we had occasion to report the union of the medical departments of Hamline University and the State University. At the recent meeting of the Board of Regents, a still more important step was taken in the amalgamation of the Homeopathic College of Medicine and Surgery with the College of Medicine and Surgery of the University of Minnesota. It is not too much to hope that this step means the ultimate wiping out of all differences between these two schools of medicine in this part of the country, and that hereafter we shall be able to present a united front in all matters that concern us as guardians of the public health.

With this action of the Board of Regents, the Homeopathic school, as such, ceases to exist, but there will be established in the College of Medicine and Surgery two new chairs, from which will be taught Homeopathic materia medica and



therapeutics. These chairs will be under the general supervision of the respective heads of the departments of materia medica and therapeutics in the College of Medicine and Surgery. The work will be elective, and any student deciding to take the Homeopathic course in these two subjects will be graduated with a diploma certifying that he is a Homeopathic physician and surgeon.

The Board of Regents, in their action, were largely influenced by the facts not only that the state was expending a large amount of money for the education of a very few students, but that what little difference now remains in the practice of the two schools, is found in the two chairs for which provision is made. We believe that this method of continuing to teach Homeopathic medicine to such as desire it, without undue expense, will be satisfactory to most of the practitioners of both schools of medicine.

Unfortunately, some little local bad feeling has arisen through the fact that several Homeopathic physicians had already joined the Hennepin and Ramsey County Medical Societies, and by this action had, in the opinion of some of their brethren, set themselves in opposition to the other members of the Homeopathic profession in their efforts to gain recognition for their school. The facts are, however, that these men, in Hennepin County at least, had agreed merely not to practice sectarian medicine. This agreement in Ramsey County was decidedly more stringent, but in both instances, it would appear, it was left largely to the individual's conscience as to what constitutes adherence to sectarian medicine. There is possibly some thought of the part of the Homeopaths also that the attempts of the local County Societies to enlist the Homeopathic physicians as members, were made largely in order to make it appear that there was no ground for continuing the Homeopathic department. As a matter of fact, in Ramsey County, agitation in favor of securing the membership of the Homeopathic physicians dates back a year or more, and in Hennepin County the movement is several months old, and was probably begun through the suggestion of Dr. Knights, while president of the Hennepin County Medical Society, and continued afterwards as a result of Dr. McCormack's visit; whereas, the developments in connection with the discontinuance of the Homeopathic department of the University are of very recent origin.

Such difficulties, and such feeling as has arisen, we believe will shortly disappear. The fact that there are now nine representative Homeopathic

physicians who are members in good standing or have applied for membership in the Hennepin County Medical Society, and six who belong to the Ramsey County Medical Society, leads us to hope that before long Homeopathic physicians will feel as free to apply for membership in the county societies as do the members of the regular profession themselves.

With the discontinuance of the Homeopathic department, Minnesota is left with but one teaching faculty in medicine, and we hope it will be a long time before another school is begun or needed. No other corporation is so well qualified to give medical instruction as is the State University, and with the complete unification of hospital and dispensary services, we may expect still further benefit and conservation of energy with correspondingly better results.

It is a standing reproach to the medical profession of the United States that there are so many institutions in this country granting diplomas in medicine, and it should be a source of pride to every citizen of Minnesota that this state, at least, is free from the curse of an excess of medical schools.

THE JOURNAL-LANCET congratulates the Regents in this happy issue out of all their difficulties, and desires also to express the gratitude which every well-wisher of medicine must feel to those men, both inside and outside the profession, who gave so freely of their time and energy to the furtherance of this amalgamation.

#### THE STATEMENT OF DRs. MAYO

On another page will be found a communication from Drs. Wm. J. and C. H. Mayo concerning a recent magazine article which most of our readers have probably seen. The statement is clear, comprehensive, and manly; and if anyone entertained the least doubt about the probable relation of Drs. Mayo to all such articles, this communication should remove all such doubt. It is incomprehensible that professional men of the least common sense would be a party, direct or indirect, to such write-ups, and we know of no more insidious way of injuring a man than to put him before the members of his profession in the manner that these articles—we believe there have been three of them—put Drs. Wm. J. and Charles H. Mayo before the medical profession.

But some may ask how these articles come to be. The answer is not altogether plain and simple. It is apparent, at least to a newspaper man, that certain features of the advancement



of the Drs. Mayo, particularly their large success in a small Western city, make material for so-called feature articles, and the magazine writers have observed this, and thus the work got started. The article in the magazine *Human Life* raises two questions: Was the magazine paid for it, and, if not, what did the managers expect to make out of it? The article is so objectionable to every physician, it is self-evident that no one connected with St. Mary's Hospital could have given his consent to its publication and its circulation among physicians. It is our opinion, based upon a somewhat minute knowledge of the modern ways of making magazines, that some special writer prepared it and sold it to the magazine convincing the magazine's publishers that it would please the profession and secure subscriptions. The writer's fear that Drs. Mayo might not approve of it, would naturally lead him not to submit it to them for their approval.

Another explanation of its publication has been advanced to the writer by several men who stand high in the profession, and their theory is not without plausibility. They believe that it was a put-up job on the publisher by certain men who desire to injure either Drs. Mayo or the medical profession, and they adopted this insidious manner of accomplishing their ends. In this view, the purpose was to bring discredit upon the profession, particularly upon all specialists or those who depend, more or less, upon their professional brothers for their practice. One can hardly accept this view without some specific knowledge of the workings of the men who would resort to such means to accomplish ends of a rather indefinite nature.

Whatever view is taken, no right-minded man, it seems to us, can connect Drs. Mayo, directly or indirectly, with such a publication as the one in *Human Life*.

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## CORRESPONDENCE

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### A PROTEST

Rochester, Minn., May 11, 1909.

TO THE EDITOR:

We have been advised not to pay any attention to the publicity given us by an article appearing in a recent issue of "*Human Life*."

Inasmuch as we have, on several occasions, suffered public humiliation of this character, it does not seem unreasonable that we should state our position exactly, because, while we have the

assurance that our friends and acquaintances fully understand our attitude as professional men toward the public, it is of course impossible that we should know personally all the practitioners of medicine in this country, and we desire the respect and esteem of all. Our endeavor is, has been, and will continue, to be in strict accord with both the letter and the spirit of the ethics of the medical profession.

In 1905 one of us was elected president of the American Medical Association, and as this was a great honor to come to a young man living in a small town, who was practically unknown outside of the profession, it attracted considerable attention among the laity. About this time there appeared in McClure's Magazine an article written by Samuel Hopkins Adams, descriptive of a number of men in the profession, ourselves among them. Mr. Adams wrote his review with true journalistic instinct and characteristic vigor. It was not so much what he said as the striking manner of saying it that called public attention to us, and since that time we have, on several occasions, been subjected to the annoyance of having our private affairs made into "news." Before then we had never been "written up," our names had never been brought prominently before the public, and we were known only through our professional work. Shortly after the article appeared in McClure's, various persons came to Rochester to obtain sensational data for publication. These people talked with hack-drivers, barbers, the people on the street, and took "snap shots." One of them secured old photographs which are printed in the article in "*Human Life*." With the greatest possible effort we succeeded in heading off the publication of a number of these articles.

In 1907 an article concerning us was published extensively in the Sunday supplement of a group of newspapers. We promptly wrote a letter to the Journal of the American Medical Association disclaiming all knowledge of it and stating that we would take legal steps for redress. "*Human Life*" republished substantially the same article.

The article is filled with exaggerations and untruths, and is written in a style most offensive to anyone accustomed, as we have been, carefully to regard professional ethics. It seems incredible that any fair-minded man in the medical profession could read this article and believe that we had anything to do with its production. The author states that W. W. Mayo, who is a man of ninety years of age and twenty years retired from practice, gained his diploma in the "school of ex-

perience," intimating that he was not in regular standing in the profession. As a matter of fact W. W. Mayo graduated from the Missouri Medical College in 1854.

A large number of men in the profession received marked sample copies of this particular number of *Human Life*, and they were followed up within a few days with a letter calling attention to the article and soliciting their subscriptions to the magazine. Strange as it may appear, some of these men have taken the matter seriously, disregarding the facts that we have always been honorable practitioners, have had an established business for years, and have received many honors from the medical profession, and that any such action on our part could add nothing but injury to our professional standing, and a disagreeable notoriety. We consider any such supposition in regard to our integrity not only an insult, but an affront to our intelligence. One can appreciate how such action might be believed of one man, but it is incomprehensible how any one could suppose that two men over forty years of age, and one at the age of ninety, would deliberately take measures to discredit the work of a lifetime.

It really seems as though the facts in the case might constitute a basis of legal action for libel. We had the matter up two years ago with our attorneys regarding the first appearance of this article. They informed us then that it was not legally a libel for the reason that newspapers had a right to comment on men, their business, and their actions, and the courts held that if no injury or discredit was intended, the offense was not actionable. As one of the attorneys said: "Do you suppose for a moment that the wizards of oil and finance would allow themselves to be commented on by the press in the way they are if they could prevent it, and if they with all their money and influence can not stop it, how can you expect to do so?" However, this last offense seemed on the face of it, to us and to many others, to constitute a libel, but we find, unfortunately, that the courts have ruled otherwise.

We herewith submit an opinion from our attorneys.

(Signed) WILLIAM J. MAYO.  
CHARLES H. MAYO..

#### ATTORNEYS' OPINION

DRS. W. J. & C. H. MAYO,  
Rochester, Minnesota.  
Dear Sirs—

We have carefully read the article published in the April, 1909, issue of "*Human Life*" entitled "The Mayos, Father and Sons." We note also your statement

that this article was written and published without your knowledge or consent, and that thereafter copies of the publication containing it were sent to many of the medical profession, marked "sample copy," and that a few days later letters from the publishers to members of the profession followed, calling attention to the article and soliciting subscriptions to the periodical containing it, all of which might inspire on the part of some the inference that you gentlemen had instigated or assented to the publication, which is the highly objectionable feature of the matter, and the cause of your complaint.

You ask our opinion as to what legal redress you have against "*Human Life*" upon these facts. It is our opinion that you have no legal redress whatever. Two questions arise under these facts:

1. Was the article libelous?

2. If not libelous, was the act of mailing the sample copies to the profession an implied statement that it was done at your instigation or with your consent?

While the article is an exaggeration, and in many respects untrue, in our opinion it is not libelous.

To constitute a libel the printed publication must either falsely charge a person with the commission of a crime or by false statements hold him up to ridicule or contempt of his fellowmen. The article in question does neither in a legal sense.

Whether or not the mailing of the marked sample copies constitutes an implied suggestion that it was done at your instigation or with your consent admits of some doubt, but we are of the opinion that it does not. Whatever the real motive may have been in mailing these copies in this particular instance, the courts will take judicial notice that it is the custom of publishers to mail sample copies of their periodicals as a means of soliciting subscriptions, and, of course, that will be the purpose asserted in this case; hence if the original publication of the article did not constitute a libel, the sending out of the marked copies would not do so. If the publishers were strictly within their legal rights in the publication of the article in question, the mere fact that the certain uninformed members of your profession might infer your connection with the publication, or that certain hostile members might make it a pretext by which to slander you, does not change the legal situation.

There is no doubt that you have been injured in the premises, from an ethical standpoint at least, but your case is known to the law as one of *damnum absque injuria*, or, in other words, injury without legal damage.

Very truly yours,

BROWN, ABBOTT & SOMSEN.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. J. Hoffman, of Chetek, Wis., will locate at Elbow Lake.

Dr. Carl D. Kolset has moved from Wendall to Elbow Lake.

Dr. Thomas Arneson has moved from Kennedy to Frederick, Wis.

Dr. Charles B. Stone has located in Kennedy. He formerly practiced at Fosston.

Dr. F. D. Brandenburg, of Mankato, has decided to locate in Sioux Falls, S. D.

The North Dakota State Medical Association held its annual meeting in Fargo last week.

Dr. L. L. Ten Broeck, who recently sold his practice at Elysian, will locate in La Porte, Ind.

Dr. Wm. Hambroer, of Eden Valley, will conduct a sanitarium at Vails Lake, near Eden Valley.

Dr. Soren P. Rees, of Minneapolis, has gone to Europe for special study, and will be absent about a year.

Dr. George M. Olson, of Minneapolis, was married last month to Miss Dr. Etta McPeck, of Gary, S. D.

Dr. G. H. Banksdale, of Chicago, has been engaged to take the place of Dr. Schultz in the Fabiola Hospital at Eveleth.

Dr. A. H. Movius, of Flandreau, S. D., has decided to move to Jamestown, N. D., where he will be engaged exclusively in hospital work.

Dr. D. C. Darrow, of Fargo, N. D., has leased his hospital to Miss Lena Peterson, who has been connected with the hospital for several years.

The Board of Education of St. Paul will select a physician at its next meeting for the work of medical inspection in the city public schools.

Dr. F. B. Strauss, of Richardton, N. D., has opened a hospital at that place, having purchased the Grand Hotel building for hospital purposes. Twenty patients can be accommodated.

The city of St. Paul has generously appropriated money for a hospital camp for tuberculous patients, but the sites wanted are opposed by real estate men, and therefore the camp has not been located.

Civil service examinations will be held at the usual places on June 16th to secure eligibles for two medical internships in the Government Hospital for the Insane at Washington, D. C. The salary is \$600 with maintenance.

Dr. W. A. Chamberlin has sold his practice at Waseca, and after a course of special study in Massachusetts General Hospital, he will locate

in Seattle, Wash. Dr. Alexander Rudolph, of Delavan, bought Dr. Chamberlin's practice.

It is reported that a hospital and sanitarium will soon be established at White Bear Lake. Dr. Thos. C. Fulton, of St. Paul, and Dr. Mary P. Hopkins, of White Bear, are interested in the enterprise. The location is certainly ideal.

"Dr. Rea" is a famous Minneapolis advertising physician whom it is difficult to reach by law, but he is meeting some obstacles in his path. He has on hand two damage suits in Clay County for \$5,000 each for malpractice.

Members of the Ramsey County Medical Society made a generous subscription to buy apparatus for the operating-room of Dr. Grenfell's Hospital at Belle Isle, Newfoundland. A tablet will be put in the room in perpetual acknowledgment of the gift.

The alumni reunion of the College of Medicine and Surgery will be held on June 8th, at Atlantic City. Members of the faculty are invited to attend the meeting. All who expect to be present are requested to notify Dr. Jay I. Durand, 1616 Pacific Ave., Atlantic City, N. J.

The Interstate Medical Club is the name of a new society organized at Wahpeton, N. D., this month. It is composed of physicians in Minnesota and North Dakota who can easily reach points like Breckenridge in Minnesota, and Wahpeton, in North Dakota. The following are the officers: President, Dr. T. O'Brien, Wahpeton; vice-president, Dr. N. F. Doleman, Tintah; secretary, Dr. C. P. Rice, Breckenridge; treasurer, Dr. L. M. Armstrong, Breckenridge. The next meeting will be held on June 6th, at Breckenridge.

The following physicians received licenses at the April examination of the Montana Board:

Fred L. Shelby, Helena; F. K. Lewers, Belgrade; H. H. Arnold, James D. Barrett, E. F. Ross, Billings; B. P. Blackstone, Sac City, Iowa; Julius Frank, Sidney; Jacob Visser, Seattle; George A. Lewis, Ismay; H. M. Fowler, Lewistown; Roy E. Seitz, Musselshell; E. E. Gains, Wibaux; Eugene Brindjone, Terry; S. T. Faucett, Friendship, Wis.; Marie M. Hyde, W. G. Wendell, Sadie R. Lindeberg, Miles City; E. J. Greer, Charles Visette, Butte; Arthur Kahala, Erskins, Minn.; Charles S. Smith, Albert L. Moffitt, Bozeman; John H. Garberson, Deer Lodge; Allan G. Fuller, Iron Mountain; A. W. Morse, Wayne A. Cochrane, Missoula; Edmond Desmond, Spokane; J. P. McGrath, Eureka; G.



W. Stoyer, H. G. Willard, Three Forks; Ernest G. Sasse, Bridger; R. L. Chipman, Stockett; C. L. Ramsey, Pipestone Springs; A. V. Blackstone, Absarokee; M. J. Casserly, Hamilton; E. O. Colvin, Ekalaka; W. R. Smith, Roundup; C. E. Whitehead, Logan; E. H. Rawls, Laurel; A. B. Hardon, Chouteau, and T. B. Stutzman, Moore.

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

PRACTICE FOR SALE

In an Eastern Minnesota town of 1,000 mixed population. Practice pays \$4,000 a year. Will give good-will and introduce the physician who buys my hospital and office fixtures. Price and terms on inquiry. Best of reasons for selling. Address T. M., care of this office.

PRACTICE FOR SALE

A well established medical and surgical practice that pays \$6,000.00 cash annually without sending out a single statement, in county seat town of 3,000 population, in Southern Minnesota, in richest agricultural section of the state; German predominating. Competition is the kind you want. Do not answer unless you have money and can furnish references. Address S. B., care of this office.

PRACTICE FOR SALE

An unopposed \$3,000 practice, with real estate and small drug-store, will be sold for \$3,000. Investigate this. References are expected and will be given. Address Medicus, care of this office.

PHYSICIAN WANTED

Excellent opening in a North Dakota town on the Soo Line for a Scandinavian doctor. No competition nearer than 16 miles. This is an opportunity worth looking up. Address R. N., care of this office.

AUTOMOBILE FOR SALE

A Victor Runabout with convertible seat; 14-16 H.-P.; air-cooled; 34-inch wheels; solid tires; friction transmission; double-chain drive; used about one month; all in good running order. Good reason for selling. Address W. M., care of this office.

AUTO FOR SALE

A Holsman No. 3; ran one season; leather top with storm front and side wings; Prestolite tank and Solar gas lamp; new Diamond tires; full equipment of tools; two brass kerosene lamps, tail-lamp, and horn. Guaranteed in first class condition. Will consider trade on touring-car. Address Dr. W. P. Lee, Fairfax, Minn.

POSITION AS SUPPLY WANTED

A State University senior medical student desires work as a supply during the summer; or, if needed, he can remain longer. Address O. M., care of this office.

POSITION WANTED IN HOSPITAL

A woman who has been in charge of a small hospital several years desires an engagement as manager or head nurse. Speaks Scandinavian. Address. E. B., care of this office.

SMALL DRUG STORE FOR SALE

A doctor would like to dispose of a small drug store in Northern Minnesota, in a mill town; doctor is overworked and therefore would like to sell his drugs out to some good druggist; two doctors in town. Address O. S., care of this office.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists, Phones: N. W., East 9381; T.-S. 16449. Minneapolis, Minn.

*Physicians, Attention.*—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work.*—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF FEBRUARY, 1909

STATE INSTITUTIONS.	Total Deaths													
	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane.....	11	5												
Rochester, Hospital for Insane.....	2													
St. Peter, Hospital for Insane.....	5													
Anoka, Asylum.....	3	1												
Hastings, Asylum.....	1													
Faribault, School for Deaf.....														
Faribault, School for Blind.....														
Faribault, School for Feeble Minded.....	4	1									1			
Owatonna, School for Dependents.....														
Stillwater, State Prison.....	1													
St. Cloud, State Reformatory.....														
Red Wing, State Training School.....														
Minneapolis, Soldiers' Home.....	3													
Totals.....	30	6	1								1			

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF FEBRUARY, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	2	1	1												
Anoka.....	3,769	4,053	1														
Austin.....	5,474	6,489	5														
Barnesville.....	1,326	1,566	0														
Bemidji.....	2,183	3,800	1	1		3											
Blue Earth.....	12,900	12,364	1			1											
Brainerd.....	7,524	8,134	1			1											
Chaska.....	2,165	2,085															
Chatfield.....	1,426	1,300															
Cloquet.....	3,074	6,117				3											
Crookston.....	5,359	6,794	1														
Detroit.....	2,060	2,149	1	1		1											
Duluth.....	52,968	64,942	66	4	1	1		3	2								1
E. Grand Forks.....	2,077	2,487	1														
Ely.....	3,712	4,045	3		1	1											
Eveleth.....	2,752	5,332	4			1											
Faribault.....	7,868	8,279	4			1											
Fairmont.....	3,440	3,955	2			1											
Fergus Falls.....	6,072	6,692	3	1		1											
Granite Falls.....	1,214	1,340															
Hastings.....	3,811	3,810	4			1		1									
Hutchinson.....	2,495	2,489	1														
Jordan.....	1,270	1,311															
Lake City.....	2,744	2,877	5	1		1											
Litchfield.....	2,280	2,415	9														
Little Falls.....	5,774	5,856	1		1	1		1									
Luverne.....	2,223	2,272	2														
Le Sueur.....	1,937	1,842	1														
Madison.....	1,336	1,604															
Mankato.....	10,559	10,996	14	1		3		1									
Marshall.....	2,083	2,243	1			1											
Melrose.....	1,783	2,151	2														
Minneapolis.....	202,718	261,974	240	21	6	44	2	8				1	2	1	6	15	1
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	1														
Moorhead.....	3,730	4,794	1	2		1		2									
Morris.....	1,934	2,003	1														
New Prague.....	1,228	1,419	1			1											
New Ulm.....	5,403	5,720	1		1												
Northfield.....	3,210	3,438	5														
Ortonville.....	1,247	1,612	1														
Owatonna.....	5,561	5,651	2														
Pipestone.....	2,536	2,885	2														
Red Lake Falls.....	1,885	1,797	1			1											
Red Wing.....	7,525	8,149	6														
Redwood Falls.....	1,661	1,806	3														
Renville.....	1,075	1,229	1														
Rochester.....	6,843	7,233	15	2	2												
Rushford.....	1,100	1,133	0														
St. Charles.....	1,304	1,238	6														
St. Cloud.....	8,663	9,422	6			2											
St. James.....	2,607	2,320	1														
St. Paul.....	163,632	197,323	15	14	5	27	3	9	7					1	2	5	6
St. Peter.....	4,302	4,514	3			1											
Sauk Centre.....	2,220	2,463	3														
Shakopee.....	3,046	3,069	2														
Sleepy Eye.....	3,046	3,312	1														
So. St. Paul.....	3,322	3,458	1		1												
Stillwater.....	12,318	12,435	6			1											
Thief River Falls.....	1,819	3,502	*														
Tower.....	1,366	1,340	*														
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	S			3											
Wabasha.....	2,528	2,619	S														
Warren.....	1,276	1,640	2														
Waseca.....	3,103	2,838	4														
Waterville.....	1,260	1,383	1														
West St. Paul.....	1,830	2,100	1			1											
Willmar.....	3,409	4,040	3														
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	17		2	3											
Worthington.....	2,386	2,276	*														

\*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF FEBRUARY, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	*														
Adrian.....	1,258	1,184	0														
Aitkin.....	1,719	1,896	0														
Akeley.....		1,636	6														
Alexandria.....	2,681	3,051	6	1								1					
Appleton.....	1,184	1,321	2														
Belle Plaine.....	1,121	1,301	1														
Benson.....	1,525	1,766	1														
Breckenridge.....	1,282	1,850	8			3									3	1	
Buffalo.....	1,040	1,124	1		1												
Caledonia.....	1,175	1,405	0														
Canby.....	1,100	1,505	*														
Cannon Falls.....	1,239	1,460	3														
Cass Lake.....	546	1,062	1			1											
Chisholm.....		4,231	5	2		1	1										
Clayton.....	962	1,056	2														
Delano.....	967	1,023	*														
Fosston.....	864	1,000	*														
Frazee.....	1,000	1,146	2														
Glencoe.....	1,780	1,805	2	1													
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	0														
Grand Rapids.....	1,428	2,055	3					1									
Hallbrook.....	805	1,014	3						1								
Hibbing.....	2,431	6,566	2	1													
Jackson.....	1,756	1,776	2			1						1					
Janesville.....	1,254	1,205	1														
Kasson.....	1,112	1,049	0														
Kenyon.....	1,202	1,252	3												1	1	
Lake Crystal.....	1,215	1,231	0														
Lanesboro.....	1,102	1,041	2													1	
Long Prairie.....	1,385	1,256	0														
Madelia.....	1,272	1,290	*														
Milaca.....	1,204	1,319	1													1	
Mountain Lake.....	959	1,063	1	1													
North Mankato.....	939	1,129	0														
North St. Paul.....	1,110	1,400	1														
Olivia.....	970	1,019	*														
Osakis.....	917	1,056	*														
Park Rapids.....	1,313	1,719	1	1													
Pelican Rapids.....	1,033	1,095	*														
Perham.....	1,182	1,366	1			1											
Pine City.....	993	1,092	*														
Plainview.....	1,038	1,140	3														
Preston.....	1,278	1,320	2														
Princeton.....	1,319	1,704	*														
Rush City.....	987	1,041	2														
Rushford.....	1,062	1,040	0														
St. Louis Park.....	1,325	1,491	1			1											
Sandstone.....	1,189	1,589	*														
Sauk Rapids.....	1,391	1,552	5														
Scanlon.....		1,122	4														
South Stillwater.....	1,422	1,572	1														
Springfield.....	1,511	1,546	0														
Spring Valley.....	1,770	1,573	*														
Staples.....	1,504	2,163	0														
Two Harbors.....	3,278	4,402	0														
Wadena.....	1,520	1,868	3														
Wells.....	2,017	1,814	*														
West Minneapolis.....	2,250	2,530	0														
Wheaton.....	1,132	1,346	1	1													
White Bear Lake.....	1,283	1,724	1														
Winnebago City.....	1,816	1,553	*														
Winthrop.....	813	1,031	2														
Zumbrota.....	1,119	1,129	2												1		
State Institutions.....			30	6	1												
Other parts of State.....	1,012,328	1,085,886	696	53	8	85	13	9	5		2	6		1	10	23	3
Total for State.....	1,751,395	1,979,658	1522	120	30	210	20	36	19		2	10	3	20	27	76	7

160 Still births and premature births, not included in above totals.

\* No report received. Health officer not doing his duty.



# Minnesota State Medical Association

## DISTRICT AND COUNTY ROSTER

APRIL, 1909

### FIRST DISTRICT

COUNCILOR, E. A. HENSEL.....Alexandria

Clay-Becker County Medical Society

Regular meetings, last Monday in January, April, July, and October

Annual meeting in January

PRESIDENT  
Aborn, Wm. H.....Hawley  
SECRETARY  
Barton, E. R.....Frazee  
Alexander, F. H.....Barnesville  
Awty, W. J. ....Moorhead  
Carman, J. B.....Detroit

Carman, J. E.....Detroit  
Darrow, Daniel C.....Moorhead  
Egge, T. S. ....Moorhead  
Frasier, G. W. ....Detroit  
Hagen, Ole J. ....Moorhead  
Heimark, O. E.....Hawley  
Holt, Edward E.....Detroit  
Humphrey, E. W.....Moorhead

Jones, S. S.....Frazee  
Kaess, A. J.....Fargo, N. D.  
Lowe, L. M.....Glyndon  
Meighen, J. W.....Ulen  
Ogden, Emma K.....Detroit  
Smith, M. B. ....Lake Park  
Smith, S. W.....Bruno  
Weeks, L. C.....Detroit

Park Region District and County Medical Society

Wilkins, Otter Tail, Douglas, and Grant Counties

Regular meetings, second Wednesday in January, April, July and October.

Annual meeting in January

PRESIDENT  
Freeborn, J. A.....Fergus Falls  
SECRETARY  
Haugan, O. M. ....Fergus Falls  
Armstrong, L. W....Breckenridge  
Baker, A. C.....Fergus Falls  
Berthold, J. L.....Perham  
Boyd, H. J.....Alexandria  
Brabec, F. J.....Perham

Burnap, W. L. ....Pelican Rapids  
Cooper, D. J.....Dent  
Cowing, Phil. G.....Ashby  
Davis, L. A.....Dalton  
Gilkinson, A. J. ....Osakis  
Hand, W. R.....Elbow Lake  
Haskell, A. D.....Carlos  
Haugan, G. T.....Battle Lake  
Hensel, E. A.....Alexandria  
Kittleson, T. N.....Fergus Falls  
Lyng, John .....Alexandria

McLean, T. N.....Fergus Falls  
Mathiesen, G. B.....Evansville  
Meckstroth, C. W.....Brandon  
Muus, Peter.....Albert Lea  
Powers, F. W.....Barrett  
Randall, A. M.....Underwood  
Serkland, J. C.....Rothsay  
Sherping, O. Th.....Fergus Falls  
Vigen, J. G.....Fergus Falls  
Vinge, Syver .....Henning

Red River Valley Medical Society

Polk, Marshall, Kittson, Roseau, and Norman Counties

Regular meetings, fourth Tuesday in January, April, July and October

Annual meeting in January

PRESIDENT  
Holte, H.....Crookston  
SECRETARY  
Nelson, H. E.....Crookston  
Anderson, W. S.....Warren  
Arneson, Thomas...Frederick, Wis.  
Bertelson, O. L.....Crookston  
Bratrud, Theodore .....Warren  
Dampier, C. E.....Crookston  
Denniston, C. H.....Crookston  
Dunlop, A. H.....Crookston

Farley, F. X.....Crookston  
Gambell, F. H....Thief River Falls  
Hanson, M.....Hendrum  
Heimark, J. H.....Gary  
Hendrickson, J. F.....Fertile  
Hodgson, H. H.....Crookston  
Kjelland, J. S.....Crookston  
Lemieux, Israel...Red Lake Falls  
Melby, O. F.....Thief River Falls  
Morley, G. A.....Crookston  
Neraal, P. O.....McIntosh  
Olson, O. H.....Ersline

Randolph, Wilson .....Crookston  
Risjord, J. N.....Fertile  
Shaleen, A. W.....Hallock  
Slipperrn, H. ....Fosston  
Smith, H. V.....Crookston  
Stuhr, C. H.....Argyle  
Swanson, Cephas .....St. Hilaire  
Watson, N. M.....Red Lake Falls  
Wattam, G. S.....Warren  
Wilkinson, J. C. ....Red Lake Falls  
Wilson, W. C.....E. Grand Forks

West Central Minnesota Medical Society

Pope, Stevens, Traverse, and Big Stone Counties

Regular meetings, second Wednesday in January, April, July and October

Annual meeting in January

PRESIDENT  
Oliver, C. I.....Graceville  
SECRETARY  
Hulburd, H. L.....Morris  
Bolsta, Charles .....Ortonville  
Caine, C. E.....Morris

Christenson, C. R. ....Starbuck  
Eberlin, E. A. ....Glenwood  
Ewing, C. F.....Wheaton  
Fjelstad, C. A.....Glenwood  
Karn, J.....Ortonville  
Karn, B. R.....Ortonville  
Leland, J. T.....Herman

Leuty, Amos .....Morris  
Linde, Herman .....Cyrus  
Magnusson, H. V.....Battle Lake  
Randall, B. M. ....Graceville  
Weir, J. D.....Beardsley  
Whittemore, J. G. ....Donnelly

## SECOND DISTRICT

COUNCILOR, J. G. MILLSPAUGH.....Little Falls

## Aitkin County Medical Society

Regular meetings, first Tuesday in each month

Annual meeting in October

## PRESIDENT

Graves, Carlton .....Aitkin

## SECRETARY

George, James W.....Aitkin

Belsheim, A. G.....Aitkin  
Kelly, B. W.....Aitkin

## Upper Mississippil Medical Society

Aitkin, Beltrami, Cass, Crow Wing, Hubbard, Morrison, Todd, and Wadena Counties

Regular meetings, second Tuesday in January, April, July, and October

Annual meeting in January

## PRESIDENT

Batcheller, Oliver T.....Brainerd

## SECRETARY

Lowthian, G. H.....Akeley

Altnow, Hugo A.....Brainerd  
Beise, R. A.....Brainerd  
Cameron, W. G.....Staples  
Christie, George R...Long Prairie  
Coulter, Charles F.....Wadena  
Courtney, Walter .....Brainerd  
Davis, A. M.....Akeley  
Desmond, M. A.....AkeleyGroves, A. F.....Brainerd  
Hall, Elmer E.....Little Falls  
Holman, E. E.....Pine River  
Holst, C. F.....Little Falls  
Holst, J. B.....Little Falls  
Ide, A. W.....Brainerd  
Irish, P. H.....Akeley  
Johnson, Oscar V.....Sebeka  
Kenyon, Paul E.....Wadena  
Knickerbocker, Frank H.....Staples  
Koch, J. C.....Blackduck  
McCann, G. E.....Nevis  
Marcley, Walter J.State SanatoriumMiller, W. A.....New York Mills  
Millsbaugh, J. G.....Little Falls  
Morell, W. N.....Verndale  
Morrison, W. R.....Bemidji  
Nicholson, Joseph .....Brainerd  
Parrott, B. W.....Long Prairie  
Reid, William .....Deer Wood  
Reimstad, C. S.....Brainerd  
Roberts, L. M.....Little Falls  
Thabes, J. A.....Brainerd  
Van Valkenburg, B. F., Long Prairie  
Watson, Thomas R.....Clarissa  
Wilcox, F. L.....Walker  
Will, W. W.....Bertha

## THIRD DISTRICT

COUNCILOR, J. L. ROTHROCK.....St. Paul

## Ramsey County Medical Society

Regular meetings, last Monday of each month

Annual meeting in January

## PRESIDENT

Schwyzer, Arnold .....St. Paul

## SECRETARY

Leavitt, Frederick.....St. Paul

Abramovitch, J. H.....St. Paul  
Arcker, A. B.....St. Paul  
Armstrong, J. M.....St. Paul  
Bacon, Knox.....St. Paul  
Bacon, L. C.....St. Paul  
Baker, J. F.....Forest Lake  
Barsness, Nellie.....St. Paul  
Beckley, F. L.....St. Paul  
Benepe, L. M.....St. Paul  
Bennion, P. H.....St. Paul  
Bettingen, J. W.....St. Paul  
Boeckmann, E.....St. Paul  
Bohland, E. H.....St. Paul  
Bole, R. S.....St. Paul  
Boxell, E. C.....St. Paul  
Bray, E. R.....St. Paul  
Brimhall, J. B.....St. Paul  
Bristol, L. D.....St. Paul  
Buckley, E. W.....St. Paul  
Burch, F.....St. Paul  
Caldwell, D. K.....St. Paul  
Campbell, J. E.....South St. Paul  
Carman, Chas. L.....St. Paul  
Cavanaugh, J. O.....St. Paul  
Chamberlin, J. W.....St. Paul  
Christison, J. T.....St. Paul  
Colvin, A. R.....St. Paul  
Comstock, A. E.....St. Paul  
Cook, Paul B.....St. Paul  
Coon, Geo. M.....St. Paul  
Dahleen, H. E.....St. Paul  
Darling, J. B.....St. Paul  
Davis, H. W.....St. Paul  
Davis, William.....St. Paul  
Dennis, W. A.....St. Paul  
Dodge, W. M.....Farmington  
Dohm, A. J.....St. Paul  
Drechsler, Herman.....St. Paul  
Endress, J. K.....St. PaulFlagg, S. D.....St. Paul  
Fosness, Edith G.....St. Paul  
Foster, Burnside .....St. Paul  
Franchino, Francesco .....St. Paul  
Francis, S. O.....White Bear  
Freeman, Charles .....St. Paul  
Fullerton, W. S.....St. Paul  
Geer, E. F.....St. Paul  
Ghent, M. M.....St. Paul  
Gillette, A. J.....St. Paul  
Hall, A. R.....St. Paul  
Hammes, E. M.....St. Paul  
Harding, J. C.....St. Paul  
Hawkins, V. J.....St. Paul  
Heath, A. C.....St. Paul  
Helger, D. D.....St. Paul  
Henderson, A.....St. Paul  
Hesselgrave, S. S.....St. Paul  
Hoff, Peder A.....St. Paul  
Holcomb, O. W.....St. Paul  
Hopkins, Mary .....St. Paul  
Jones, D. C.....St. Paul  
Jones, E. M.....St. Paul  
Jones, Talbot .....St. Paul  
Kane, J. P.....Delano  
Kannary, E. L.....St. Paul  
Kelly, W. D.....St. Paul  
King, H. V.....St. Paul  
Kirkwood, S. M.....St. Paul  
Kistler, A. S.....St. Paul  
Lankster, Howard .....St. Paul  
Lemke, G. F.....St. Paul  
Lerche, Wm.....St. Paul  
Lewis, W. W.....St. Paul  
Little, W. J.....St. Paul  
Lundholm, E. M.....St. Paul  
McDavitt, Thos.....St. Paul  
McLaren, Jennette M.....St. Paul  
MacLaren, A.....St. Paul  
Macdonald, Angus .....St. Paul  
Markoe, J. C.....St. Paul  
Maschger, A. P.....St. Paul  
Miller, C. T.....St. Paul  
Moynihan, T. J.....St. Paul  
Nelson, J. C.....St. PaulNelson, L. A.....St. Paul  
Nippert, H. T.....St. Paul  
O'Brien, H. J.....St. Paul  
O'Malley, W.....St. Paul  
Ogden, B. H.....St. Paul  
Ohage, Justus.....St. Paul  
Olander, J. E.....St. Paul  
Peddicord, H.....St. Paul  
Peterson, V. N.....St. Paul  
Pine, A. A.....St. Paul  
Pine, O. S.....St. Paul  
Plondke, F. J.....St. Paul  
Quinn, J. A.....St. Paul  
Ramsey, W. R.....St. Paul  
Reynolds, M. H.....St. Paul  
Riggs, C. E.....St. Paul  
Ritchie, H. P.....St. Paul  
Ritchie, Parks .....St. Paul  
Robinson, L. S. B.....St. Paul  
Rogers, J. T.....St. Paul  
Rothchilds, H. J.....St. Paul  
Rothrock, J. L.....St. Paul  
Savage, F. J.....St. Paul  
Schuldt, F. C.....St. Paul  
Senkler, Geo. E.....St. Paul  
Shimonek, Anton .....St. Paul  
Smith, C. E.....St. Paul  
Smith, C. E. Jr.....St. Paul  
Sneve, Haldor .....St. Paul  
Sohberg O.....St. Paul  
Sternier, E. G.....St. Paul  
Stierle, A. Jr.....St. Paul  
Stumm, T. W.....St. Paul  
Taylor, H. L.....St. Paul  
Vieregge, J. A.....St. Paul  
Warne, E. G.....St. Paul  
Watson, Thos. R.....Clarissa  
Whitacre, J. C.....St. Paul  
White, J. S.....St. Paul  
Whitman, A. F.....St. Paul  
Williams, C.....St. Paul  
Winnick, J. B.....St. Paul  
Wood, E. S.....St. Paul  
Worstell, Gaylord.....St. Paul

**Washington County Medical Society**

Regular meetings second Tuesday every two months, odd numbered months

Annual meeting in January.

**PRESIDENT**  
Wells, E. E. .... Stillwater

**SECRETARY**  
Landein, F. G. .... Stillwater  
Boleyn, E. S. .... Stillwater  
Burfiend, G. H. .... Afton

Clark, T. C. .... Stillwater  
Freigh, E. O'B. .... Stillwater  
Furber, W. W. .... Cottage Grove  
Haines, J. H. .... Stillwater  
Humphrey, W. R. .... Stillwater  
Kalinoff, D. .... Stillwater

Merrill, B. J. .... Stillwater  
Pratt, W. H. .... Stillwater  
Steen, A. H. .... Cottage Grove  
Stevens, F. A. .... Lake Elmo  
Thomas, O. F. .... Lakeland  
Withrow, M. E. .... International Falls

**Chisago-Pine County Medical Society**

Regular meetings, second Tuesday in January, April, July, and October

Annual meeting in October

**PRESIDENT**  
Zeien, Thos. .... North Branch

**SECRETARY**  
Anderson, C. A. .... Rush City

Dredge, H. P. .... Sandstone  
Ehmke, W. C. .... Willow River  
Froehlich, H. W. .... Pine City  
Gray, C. E. .... Rush City  
Gunz, A. N. .... Centre City

McEachern, W. A. .... Sandstone  
Murdock, H. G. .... Taylor's Falls  
Stenberg, Oscar. .... North Branch  
Tilton, A. J. .... Centre City  
Werner, O. S. .... Lindstrom

**Central Minnesota District Medical Society**

Mille Lacs, Isanti, Sherburne, and Kanabec Counties

Annual meeting in November

**PRESIDENT**  
Titus, W. S. .... Mora

**SECRETARY**  
Lewis, A. J. .... Mora

Bacon, H. P. .... Milaca  
Cooney, H. C. .... Princeton  
Olsen, S. H. .... Milaca

Vrooman, F. E. .... St. Francis  
Swennes, O. S. .... Lawrence

**St. Louis County Medical Society**

St. Louis, Cook, Lake, Itasca, and Carlton Counties

Regular meetings, second Thursday of each month

Annual meeting in December

**PRESIDENT**  
More, C. W. .... Eveleth

**SECRETARY**  
Linneman, N. L. .... Duluth

Abbott, C. U. .... Aurora  
Abbott, Wm. P. .... Duluth  
Adams, B. S. .... Hibbing  
Ashley, Paul L. .... Virginia  
Ayers, G. T. .... Ely  
Bagley, W. R. .... Duluth  
Barclay, A. .... Cloquet  
Barrett, F. .... Gilbert  
Blacklock, S. S. .... Hibbing  
Boyer, S. H. .... Duluth  
Braden, A. J. .... Duluth  
Bray, C. W. .... Biwabik  
Brooks, G. F. .... Stevenson  
Brown, P. F. .... Eveleth  
Brunelle, A. M. .... Cloquet  
Budd, J. D. .... Two Harbors  
Bullen, F. W. .... Hibbing  
Buser, J. R. .... Biwabik  
Butchart, G. N. .... Hibbing  
Carpenter, C. C. .... Ely  
Carson, J. H. .... Duluth  
Chapman, T. L. .... Duluth  
Cheney, E. L. .... Duluth  
Collins, H. .... Duluth  
Conkey, C. D. .... Duluth  
Cosgrove, J. H. .... Taconite  
Coventry, W. A. .... Duluth  
Crowe, J. H. .... Virginia  
Daugherty, E. B. .... Duluth  
Daugherty, L. E. .... Eveleth

Davis, H. S. .... Duluth  
Deslauriers, A. A. .... Duluth  
Detling, F. E. .... Duluth  
Drenning, F. C. .... Duluth  
Eklund, J. J. .... Duluth  
Fahey, E. W. .... Duluth  
Farmer, J. C. .... McKinley  
Flemming, James .... Cloquet  
Francis, H. M. .... Sparta  
Gans, E. M. .... Eveleth  
Gillispi, N. H. .... Duluth  
Graham, D. .... West Duluth  
Graham, R. .... Duluth  
Grawn, F. A. .... Duluth  
Greeley, L. Q. .... Duluth  
Hamel, C. E. .... Duluth  
Haney, C. L. .... Duluth  
Harwood, W. E. .... Eveleth  
Hirschfield, M. S. .... Duluth  
Hovde, A. G. .... Superior, Wis.  
Hovde, Hans N. .... Duluth  
Jackola, John .... Duluth  
Jern, J. H. .... West Duluth  
Johnson, J. V. .... Eveleth  
Judson, W. E. .... W. Duluth  
Kean, N. D. .... Coleraine  
Keyes, C. R. .... West Duluth  
Knauff, M. K. .... Two Harbors  
Kraft, P. .... Duluth  
Kuth, J. R. .... Duluth  
Lenont, C. B. .... Virginia  
Lum, C. E. .... Duluth  
Lynam, F. .... Duluth  
McAuliffe, J. .... Duluth  
McComb, C. F. .... Duluth  
McCoy, Mary .... Duluth

McCuen, J. A. .... Duluth  
McGiffert, E. N. .... Duluth  
Magie, W. H. .... Duluth  
Malmgren, C. V. .... Virginia  
Moir, W. P. .... Biwabik  
Murray, D. D. .... Duluth  
Nyquist, J. E. .... Cloquet  
Oredson, O. A. .... Duluth  
Pare, L. T. .... Duluth  
Parker, O. W. .... Ely  
Patton, F. J. .... Duluth  
Payette, C. H. .... West Duluth  
Ranney, T. P. .... Eveleth  
Robinson, J. M. .... Duluth  
Rood, D. C. .... Hibbing  
Salter, W. H. .... Duluth  
Schulze, A. G. .... Carlton  
Schwartz, A. H. .... Duluth  
Seashore, D. E. .... West Duluth  
Shaw, A. W. .... Buhl  
Shellman, John L. .... Nashwauk  
Smith, B. A. .... Biwabik  
Stewart, C. A. .... Duluth  
Sukeforth, L. A. .... Duluth  
Taylor, A. C. .... Duluth  
Taylor, C. W. .... Duluth  
Tilderquist, D. L. .... Duluth  
Tufty, J. M. O. .... Duluth  
Tuohy, E. L. .... Duluth  
Walker, A. E. .... Duluth  
Watkins, O. S. .... Carlton  
Weston, J. B. .... Duluth  
Wilkinson, Stella .... Duluth

**FOURTH DISTRICT**

COUNCILOR, F. A. KNIGHTS. .... Minneapolis

**Hennepin County Medical Society**

Regular meetings, first Monday in each month, except July and August

Annual meeting in January

**PRESIDENT**  
Simpson, J. D. .... Minneapolis

**SECRETARY**  
Bradley, C. H. .... Minneapolis  
Abbott, A. W. .... Minneapolis  
Adair, F. L. .... Minneapolis

Aldrich, A. G. .... Minneapolis  
Aling, C. P. .... Minneapolis  
Allen, H. W. .... Minneapolis  
Anderson, A. E. .... Minneapolis  
Anderson, J. D. .... Minneapolis  
Angell, W. A. .... Minneapolis

Annis, H. B. .... Minneapolis  
Arey, H. C. .... Excelsior  
Aspeland, S. J. .... Minneapolis  
Aune, Martin. .... Minneapolis  
Aurand, W. H. .... Minneapolis  
Aurness, P. A. .... Minneapolis



Austin, Edward E.....	Minneapolis	Hutchins, E. A.....	Minneapolis	Peters, R. M.....	Minneapolis
Avery, J. Fowler.....	Minneapolis	Hvoslef, Jakob.....	Minneapolis	Pettit, C. W.....	Minneapolis
Aylmer, A. L.....	Minneapolis	Hynes, James.....	Minneapolis	Phelan, R. J.....	Minneapolis
Baier, Florence C.....	Minneapolis	Hynes, J. E.....	Minneapolis	Phillips, Edwin.....	Minneapolis
Bakke, O. H.....	Minneapolis	Irwin, A. F.....	Minneapolis	Pineo, W. B.....	Minneapolis
Barber, J. P.....	Minneapolis	Jacobson-Keats, Julia M.....	Mpls.	Plonske, C. J.....	Minneapolis
Barton, G. C.....	Minneapolis	Jensen, M. J.....	Minneapolis	Poehler, F. T.....	Minneapolis
Bass, G. W.....	Minneapolis	Johnson, A. E.....	Minneapolis	Poppe, Fred H.....	Minneapolis
Baxter, S. H.....	Minneapolis	Johnson, H. Amanda.....	Minneapolis	Post, J. O.....	Minneapolis
Beachler, G. F.....	Minneapolis	Johnson, Julius.....	Minneapolis	Potter, Albert C.....	Minneapolis
Beard, R. O.....	Minneapolis	Johnson, Nimrod A.....	Minneapolis	Pratt, F. J.....	Minneapolis
Behrens, B. M.....	Minneapolis	Jones, Herbert W.....	Minneapolis	Quinby, Thos. F.....	Minneapolis
Bell, J. W.....	Minneapolis	Jones, W. A.....	Minneapolis	Quist, Henry W.....	Minneapolis
Benjamin, A. E.....	Minneapolis	Kelly, E. S.....	Minneapolis	Reed, Chas. A.....	Minneapolis
Benson, G. E.....	Minneapolis	Kennedy, Jane F.....	Minneapolis	Rees, S. P.....	Minneapolis
Bessen, A. N.....	Minneapolis	Kimball, H. H.....	Minneapolis	Rexford, L. A.....	Minneapolis
Bishop, C. W.....	Minneapolis	Kinney, R. H.....	Minneapolis	Ringnell, C. J.....	Minneapolis
Bissell, Frank S.....	Minneapolis	Kistler, C. M.....	Minneapolis	Rishmiller, J. H.....	Minneapolis
Blake, James.....	Hopkins	Kistler, J. M.....	Minneapolis	Roan, Carl M.....	Minneapolis
Blomburgh, A. F.....	Minneapolis	Knight, Ray Robert.....	Minneapolis	Roberts, Cora B.....	Minneapolis
Bouman, H. A.....	Minneapolis	Knights, F. A.....	Minneapolis	Roberts, Geo. F.....	Minneapolis
Bracken, H. M.....	St. Paul	Kohler, Geo. A.....	Minneapolis	Roberts, Thos. S.....	Minneapolis
Brede, W. G.....	Minneapolis	Kriedt, Dan'l.....	Minneapolis	Roberts, W. B.....	Minneapolis
Brown, E. J.....	Minneapolis	Krogstad, Olaf E.....	Minneapolis	Robitshek, E. C.....	Minneapolis
Brown, R. S.....	Minneapolis	Lampson, H. G.....	Minneapolis	Rochford, W. E.....	Minneapolis
Bryant, O. R.....	Minneapolis	Lapierre, C. A.....	Minneapolis	Rodgers, C. L.....	Minneapolis
Butler, John.....	Minneapolis	Law, A. A.....	Minneapolis	Rome, Robert R.....	Minneapolis
Byrnes, W. J.....	Minneapolis	Leavitt, H. H.....	Minneapolis	Rosen, Samuel.....	Minneapolis
Campbell, R. A.....	Minneapolis	Lee, Thos. G.....	Minneapolis	Rutledge, J. W.....	Minneapolis
Carlaw, C. M.....	Minneapolis	Leland, M. H.....	Minneapolis	Scheffek, J. F.....	Minneapolis
Cary, H. E.....	Minneapolis	Lewis, J. M.....	Minneapolis	Schjelderup, N. H.....	Minneapolis
Cates, A. B.....	Minneapolis	Lind, A.....	Minneapolis	Schmidt, G. F.....	Minneapolis
Chapman, O. S.....	Minneapolis	Lind, C. J.....	Minneapolis	Schmidt, Karl H.....	Minneapolis
Chowning, Wm. W.....	Minneapolis	Linton, W. B.....	Minneapolis	Schwytzer, G.....	Minneapolis
Cirkler, A. A.....	Minneapolis	Litchfield, John T.....	Minneapolis	Seashore, Gilbert.....	Minneapolis
Cockburn, J. C.....	Minneapolis	Little, J. W.....	Minneapolis	Sedgwick, J. P.....	Minneapolis
Cohen, H. A.....	Minneapolis	Litzenberg, J. C.....	Minneapolis	Sessions, J. C.....	Minneapolis
Condit, W. H.....	Minneapolis	Loberg, A. E.....	Minneapolis	Shelden, W. D.....	Minneapolis
Collins, Herbert O.....	Minneapolis	Lockwood, L. S. O.....	Minneapolis	Sivertsen, Ivar.....	Minneapolis
Cook, H. W.....	Minneapolis	Long, Jesse.....	Minneapolis	Slocumb, Maude S.....	Minneapolis
Cooke, W. H.....	Minneapolis	Luther, Clara M.....	Minneapolis	Smith, Arthur E.....	Minneapolis
Corbett, J. F.....	Minneapolis	Lynch, M. J.....	Minneapolis	Smith, C. A.....	Minneapolis
Cosmann, E. O.....	Minneapolis	Lynch, R. F.....	Minneapolis	Smith, D. Edmund.....	Minneapolis
Cowles, D. C.....	Minneapolis	McCorm, C. A.....	Minneapolis	Smith, Norman M.....	Minneapolis
Crafts, Leo M.....	Minneapolis	McDaniel, Oriana.....	Minneapolis	Soderlund, A.....	Minneapolis
Crosby, J. A.....	Minneapolis	McDermott, T. E.....	Minneapolis	Spratt, C. J.....	Minneapolis
Cross, Jno. G.....	Minneapolis	McDonald, H. N.....	Minneapolis	Spratt, C. N.....	Minneapolis
Crume, Geo. P.....	Minneapolis	McDonald, I. C.....	Minneapolis	Staples, H. L.....	Minneapolis
Dart, L. O.....	Minneapolis	McEachran, A.....	Minneapolis	Stewart, J. Clark.....	Minneapolis
Dawson, C. A.....	Minneapolis	McLaughlin, J. A.....	Minneapolis	Stone, J. Leslie.....	Minneapolis
Day, L. W.....	Minneapolis	McMurdy, R. S.....	Minneapolis	Stowe, Alvah J.....	Minneapolis
Dearborn, B. S.....	Minneapolis	Macdonald, J. W.....	Minneapolis	Strout, E. S.....	Minneapolis
Deziel, G.....	Minneapolis	Macnie, J. S.....	Minneapolis	Stuart, J. H.....	Minneapolis
Disen, C. F.....	Minneapolis	Maland, C. O.....	Minneapolis	Sweetser, H. B.....	Minneapolis
Donaldson, C. A.....	Minneapolis	Malchow, C. W.....	Minneapolis	Sweitzer, S. E.....	Minneapolis
Driesbach, S.....	Minneapolis	Mann, A. T.....	Minneapolis	Taft, J. O.....	Minneapolis
Dunsmoor, F. A.....	Minneapolis	Mead, Marlon A.....	Minneapolis	Talbot, Ada E.....	Minneapolis
Dutton, C. E.....	Minneapolis	Meleck, H. N.....	Minneapolis	Tennyson, Theo.....	Minneapolis
Eitel, Geo. G.....	Minneapolis	Meyer, E. L.....	Minneapolis	Thomas, David O.....	Minneapolis
Erb, Frederick A.....	Minneapolis	Miller, Hugo H.....	Minneapolis	Tibbitts, J. I.....	Wayzata
Erdmann, Chas. A.....	Minneapolis	Miller, Troy S.....	Minneapolis	Tingdale, A. C.....	Minneapolis
Erickson, J. G.....	Minneapolis	Mintener, J. W.....	Minneapolis	Todd, F. C.....	Minneapolis
Farr, R. E.....	Minneapolis	Mitchell, L. C.....	Minneapolis	Towers, F. E.....	Minneapolis
Field, Emily W.....	Minneapolis	Moen, J. K.....	Minneapolis	Towers, Mary E.....	Minneapolis
FitzGerald, Don F.....	Minneapolis	Monahan, J. A.....	Minneapolis	Tryon, Wm. E.....	Minneapolis
Foot, Lucius F.....	Minneapolis	Moore, J. E.....	Minneapolis	Tunstead, Hugh.....	Minneapolis
Franzen, H. G.....	Minneapolis	Moore, J. T.....	Minneapolis	Tyrell, C. C.....	Minneapolis
Fryberger, W. O.....	Minneapolis	Moorehead, Martha B.....	Minneapolis	Ulrich, Henry L.....	Minneapolis
Geist, Emil S.....	Minneapolis	Moren, E.....	Minneapolis	Ulrich, Mabel S.....	Minneapolis
Gordon, G. J.....	Minneapolis	Morris, Minor.....	Hopkins, Minn.	VanderHorck, M. P.....	Minneapolis
Gould, J. B.....	Minneapolis	Morse, John H.....	Minneapolis	Vover, Emil O.....	Minneapolis
Graham, B. F.....	Minneapolis	Morton, H. McL.....	Minneapolis	Wang, A. M.....	Minneapolis
Green, E. K.....	Minneapolis	Mullin, R. H.....	Minneapolis	Wanous, E. Z.....	Minneapolis
Guilford, H. M.....	Minneapolis	Murdock, A. J.....	Minneapolis	Warham, Thos. T.....	Minneapolis
Hagen, G. L.....	Minneapolis	Murphy, W. B.....	Minneapolis	Watson, J. A.....	Minneapolis
Haggard, G. D.....	Minneapolis	Murray, Wm. R.....	Minneapolis	Watson, John.....	St. Louis Park
Hall, Pearl M.....	Minneapolis	Nelson, C. P.....	Minneapolis	Westbrook, F. F.....	Minneapolis
Hall, W. A.....	Minneapolis	Nelson, H. S.....	Minneapolis	Weston, C. G.....	Minneapolis
Hallowell, Wm. H.....	Minneapolis	Newhart, Horace.....	Minneapolis	Whetstone, Mary S.....	Minneapolis
Hamilton, A. S.....	Minneapolis	Nicholson, Elmer.....	Minneapolis	Whipple, C. D.....	Minneapolis
Hanscome, W. C.....	Minneapolis	Nickerson, M. L.....	Minneapolis	White, S. M.....	Minneapolis
Hare, E. R.....	Minneapolis	Nickerson, W. S.....	Minneapolis	Wilcox, Archa E.....	Minneapolis
Harrah, J. W.....	Minneapolis	Nippert, L. A.....	Minneapolis	Wilcox, M. Russell.....	Minneapolis
Harrington, C. D.....	Minneapolis	Nissen, Henrik.....	Minneapolis	Wilcox, Van H.....	Minneapolis
Hartzell, Thos. B.....	Minneapolis	Nootnagel, C. F.....	Minneapolis	Williams, C. W.....	Minneapolis
Haverfield, Addie R.....	Minneapolis	Norred, C. H.....	Minneapolis	Williams, H. L.....	Minneapolis
Haynes, F. E.....	Minneapolis	Noth, H. W.....	Minneapolis	Williams, Robert.....	Minneapolis
Head, Geo. D.....	Minneapolis	Nve, W. F.....	Minneapolis	Williams, U. G.....	Minneapolis
Hedback, A. E.....	Minneapolis	Oberg, Emanuel.....	Minneapolis	Witham, C. A.....	Minneapolis
Helk, H. H.....	Minneapolis	O'Brien, R. P.....	Minneapolis	Woodard, F. R.....	Minneapolis
Henry, C. E.....	Minneapolis	O'Donnell, J. E.....	Minneapolis	Woodworth, Elizabeth.....	Minneapolis
Higgins, J. H.....	Minneapolis	Ohnstad, Jens.....	Minneapolis	Wright, C. B.....	Minneapolis
Hill, Eleanor J.....	Minneapolis	Olson, Olaf A.....	Minneapolis	Wright, C. D.....	Minneapolis
Hill, R. J.....	Minneapolis	Orton, H. N.....	Minneapolis	Wright, F. R.....	Minneapolis
Hirschfield, Adolph.....	Minneapolis	Owre, Oscar.....	Minneapolis		
Heggh, Knut.....	Minneapolis	Parker, E. H.....	Minneapolis		
Holl, Peter M.....	Minneapolis	Parks, Albert H.....	Minneapolis		
Hunter, C. H.....	Minneapolis	Pederson, R. M.....	Minneapolis		

**Meeker County Medical Society**

Annual meeting in October

**PRESIDENT**

Hildebrandt, Ernest...Forest City

**SECRETARY**

Robertson, J. W.....Litchfield

Brigham, F. T.....Watkins  
 Cassell, H. E.....Litchfield  
 Chapman, W. E.....Litchfield  
 Cutts, G. A. C.....Grove City  
 Danielson, Karl A.....Litchfield

Donovan, J. J.....Eden Valley  
 Hansom, M. O.....Dassel  
 Kauffman, John H.....Dassel  
 Peterson, A. C.....Dassel

**Wright County Medical Society**

Regular meetings first Monday in January, April, July and October

Annual meeting in October

**PRESIDENT**

Ridgway, A. M.....Annandale

**SECRETARY**

Catlin, John J. ....Buffalo

Chilton, E. Y.....Howard Lake  
 Hawkins, E. P.....Montrose  
 Hill, A. L.....Monticello  
 Larsen, Carl L.....Buffalo  
 Metcalf, J. N.....Monticello

O'Hair, P.....Waverly  
 Roseau, Victor.....Maple Lake  
 Shrader, E. E.....Watertown  
 Valiquet, M. V.....Rockford

**Stearns-Benton County Medical Society**

Regular meetings, third Thursday in January, April, July, and October

Annual meeting in April

**PRESIDENT**

DuBois, Julian A.....Sauk Center

**SECRETARY**

Boehm, J. C.....St. Cloud

Anderson, Ernest A....Holdingford  
 Beaty, J. H.....St. Cloud  
 Beebe, W. L. ....St. Cloud  
 Brigham, Charles F.....St. Cloud  
 Brigham, G. S.....St. Cloud  
 Dunn, John B.....St. Cloud  
 Edmunds, I. L.....St. Cloud  
 Eichmann, Johann.....Torah  
 Ferree, George P.....Grant Park, Ill.  
 Friesleben, William...Sauk Rapids

Hilbert, Pierre A.....Melrose  
 Holdridge, Geo. A.....Browerville  
 Hubert, R. I.....St. Cloud  
 Jellison, E. R.....Foley  
 Kern, Max J.....St. Cloud  
 Kirghis, A. J.....Sauk Center  
 Kuhlmann, August.....Melrose  
 Lalonde, Edmund .....Torah  
 Lalonde, J. N.....Cold Spring  
 Lamb, Harold L.....Sauk Center  
 Leech, Stuart W.....Brooten  
 Lewis, C. B.....St. Cloud  
 Lewis, Edwin J.....Sauk Center  
 McMasters, James M..Sauk Center  
 Malov, Geo. E.....St. Cloud  
 Moynihan, A. F.....Sauk Center

Pinnault, H. A.....St. Joseph  
 Pilon, Pierre C.....New Paynesville  
 Putney, Geo. E.....New Paynesville  
 Rand, M. J.....Sauk Rapids  
 Rathbun, A. M.....Rice  
 Ridgway, Alex. ....Belgrade  
 Sherwood, Geo. E.....Kimball  
 Sutton, Henry E.....Cold Spring  
 Watson, Tolbert.....Albany  
 Whiting, Arthur D.....St. Cloud  
 Wolner, O. H.....St. Cloud  
 Woods, E. A.....Clear Lake

**Kandiyohti-Swift County Medical Society**

Regular meetings, April and June

Annual meeting in April

**PRESIDENT**

Peterson, J. R.....Willmar

**SECRETARY**

Newman, G. A. ....New London

Branton, Berton J.....Willmar  
 Daignault, Oscar.....Benson  
 Frost, E. H.....Willmar  
 Hoftee, Ole T.....New London  
 Jacobs, J. C.....Willmar

Johnson, Christian.....Willmar  
 Johnson, Hans.....Kerkhoven  
 Peterson, Geo. E.....Murdock  
 Rains, J. M.....Willmar  
 Scofield, C. L. ....Benson

**FIFTH DISTRICT**

COUNCILOR, H. M. WORKMAN.....Tracy

**Camp Release District Medical Society**

Renville, Chippewa, Lac qui Parle, Yellow Medicine, and Sibley Counties

Regular meetings, fourth Thursday in January, April, July and October

Annual meeting in January

**PRESIDENT**

Lumley, W. A.....Renville

**SECRETARY**

Zimbeck, R. D.....Montevideo

Adams, R. C.....Bird Island  
 Bacon, R. S.....Montevideo  
 Beck, W. M.....Hanley Falls  
 Benson, O. O.....Sacred Heart  
 Bergh, L. N.....Montevideo  
 Burns, M. A.....Milan  
 Bushey, M. E.....Arlington  
 Carpenter, G. S....Glenham, S. D.  
 Clay, E. M.....Renville

Cole, H. B.....Franklin  
 Cressey, F. J.....Granite Falls  
 Davison, P. C.....Clara City  
 Duclos, J. A.....Henderson  
 Ferguson, James B.....Olivia  
 Flower, Ward Z.....Gibson  
 Gammell, H. W.....Madison  
 Gier, E. O.....Madison  
 Hacking, F. H.....Granite Falls  
 Hauge, M. M.....Clarkfield  
 Helland, J. W. ....Maynard  
 Johnson, A. E.....Madison  
 Johnson, H. M.....Dawson  
 Jones, D. N.....Gaylord

Kanne, C. W. ....Arlington  
 Lee, Wm. P.....Fairfax  
 Mee, P. H.....Gaylord  
 Mesker, G. H.....Olivia  
 Miller, F. C.....Olivia  
 Moore, W. J.....Wood Lake  
 Nelson, N. A.....St. Paul  
 Penhall, F. W.....Morton  
 Powell, C. B.....Madison  
 Puffer, F. L.....Bird Island  
 Rogers, C. E.....Montevideo  
 Stemsrud, A. A.....Dawson  
 Stolpestad, H. L. ....Lafayette  
 Watson, Charles W. ....Boyd

**Brown-Redwood County Medical Society**

Regular meetings, January, May, and October

Annual meeting second Tuesday in January

**PRESIDENT**  
 Gray, F. D. .... Vesta  
**SECRETARY**  
 Brand, W. A. .... Redwood Falls  
 Adams, J. L. .... Morgan  
 Aldrich, F. H. .... Belview  
 Boyd, C. A. .... Redwood Falls

Clement, L. O. .... Lamberton  
 Fritsche, L. A. .... New Ulm  
 Gibson, C. P. .... Redwood Falls  
 Gosslee, G. L. .... Wabasso  
 Keifer, M. A. .... Sleepy Eye  
 Kuske, A. L. .... Sanborn  
 Pease, Giles R. .... Redwood Falls  
 Prim, J. A. .... Comfrey

Reineke, G. F. .... New Ulm  
 Rothenberg, J. C. .... Springfield  
 Schoch, J. L. .... New Ulm  
 Shrader, J. S. .... Springfield  
 Strickler, O. C. .... New Ulm  
 Weiser, G. B. .... New Ulm  
 Wellcome, J. W. B. .... Sleepy Eye

**Lyon-Lincoln County Medical Society**

Regular meetings, first Tuesday in February, July and November

Annual meeting in February

**PRESIDENT**  
 Cox, A. J. .... Tyler  
**SECRETARY**  
 Workman, H. M. .... Tracy  
 Bacon, C. G. .... Marshall  
 Germs, Chas. .... Balaton

Hard, A. D. .... Marshall  
 Holdale, A. D. .... Tracy  
 Jensen, J. C. .... Hendricks  
 Knudson, B. C. .... Tyler  
 Persons, C. E. .... Marshall  
 Renninger, J. S. .... Marshall

Robertson, J. B. .... Cottonwood  
 Sanderson, Ed. T. .... Minneota  
 Thordarson, Th. .... Minneota  
 Valentine, W. H. .... Tracy  
 Wakefield, Wm. .... Lake Benton  
 Weyrens, P. J. .... Ivanhoe

**SIXTH DISTRICT**

COUNCILOR, A. E. SPALDING. .... Luverne

**Southwestern Medical Society**

Pipestone, Rock, Nobles, Murray, and Cottonwood Counties

Regular meetings, second Thursday in January and July

Annual meeting in January

**PRESIDENT**  
 Brown, A. H. .... Pipestone  
**SECRETARY**  
 King, Emil .... Fulda  
 Balcom, G. G. .... Lake Wilson  
 Readie, W. D. .... Windom  
 Bong, J. H. .... Jasper  
 Crowley, J. M. .... Ellsworth  
 Dolan, C. P. .... Worthington  
 Doxey, George L. .... Edgerton  
 Gerber, Lou M. .... Jasper  
 Geyerman, P. T. .... Worthington

Greene, C. A. .... Windom  
 Humiston, Ray. .... Worthington  
 Kilvington, S. S. .... Hopkins  
 Lowe, Thomas. .... Pipestone  
 Manson, F. M. .... Worthington  
 May, C. C. .... Adrian  
 Miller, Victor I. .... Westbrook  
 Mork, B. O. .... Worthington  
 Nessa, N. J. .... Brewster  
 Paulson, T. S. .... Hills  
 Rice, G. D. .... Pipestone  
 Richardson, W. E. .... Slayton  
 Scherer, C. A. .... Ruthon

Sherman, C. L. .... Luverne  
 Sogge, L. L. .... Windom  
 Spalding, A. E. .... Luverne  
 Sullivan, M. .... Adrian  
 Taylor, Wm. J. .... Pipestone  
 Weiser, F. R. .... Windom  
 Wheat, F. C. .... Marshall  
 Whyte, P. D. .... Hardwick  
 Wiedow, Henry. .... Worthington  
 Williams, A. B. .... Willmont  
 Williams, Leon A. .... Slayton  
 Wright, C. O. .... Luverne

**Blue Earth Valley Medical Society**

Faribault and Martin Counties

Regular meetings, second Tuesday in January and July

Annual meeting in January

**PRESIDENT**  
 Luedtke, G. H. .... Fairmont  
**SECRETARY**  
 Broberg, J. A. .... Blue Earth  
 Burton, C. N. .... Elmore

Butz, J. A. .... Monterey  
 Chambers, W. C. .... Blue Earth  
 Durgin, F. L. .... Winnebago  
 Forbes, H. J. .... Winnebago  
 Franklin, A. J. .... Blue Earth City  
 Hunt, F. N. .... Blue Earth City

Jacobs, A. C. .... Elmore  
 Johnson, H. P. .... Fairmont  
 Richardson, W. J. .... Fairmont  
 Schmitt, S. C. .... Blue Earth  
 Vaughan, G. E. .... Winnebago

**Jackson County Medical Society**

Regular meetings, second Tuesday in May and November

Annual Meeting in November.

**PRESIDENT**  
 Searles, Scott .... Lakefield  
**SECRETARY**

Artz, Herbert L. .... Jackson  
 Benson, Iver S. .... Jackson  
 Maitland, David P. .... Jackson

Moe, Anton J. .... Heron Lake  
 Portman, William C. .... Jackson  
 Stevens, R. G. .... Heron Lake

**Watsonwan County Medical Society**

Regular meetings, held monthly at St. Peter

Annual meeting, second Wednesday in December

**PRESIDENT**  
 Cooley, C. O. .... Madelia  
**SECRETARY**  
 Haynes, B. H. .... St. James

Jenson, T. J. .... Madelia  
 McCarthy, W. J. .... Madelia

Rowe, W. H. .... St. James  
 Thompson, Albert .... St. James



## SEVENTH DISTRICT

COUNCILOR, F. A. DODGE.....Le Sueur

## Nicollet-Le Sueur County Medical Society

Regular meetings, January and September

Annual meeting in January

## PRESIDENT

McIntyre, G. W.....St. Peter

## SECRETARY

Le Clerc, Joseph E.....Le Sueur

Aitkins, H. B. ....LeSueur Center

Daniels, J. W.....St. Peter

Dodge, F. A.....Le Sueur

Freeman, George H.....St. Peter

Hartung, H. A.....Le Sueur

McDougall, D. W.....Le Sueur

Merritt, Geo. F.....St. Peter

Powell, W. H.....Kasota

Strathern, F. P.....St. Peter

Theissen, W. M.....Henderson

Tomlinson, H. A.....St. Peter

Valin, H. D.....St. Peter

## McLeod County Medical Society

Regular meetings, quarterly

Annual meeting, January 15th

## PRESIDENT

Nickerson, B. S.....Glencoe

## SECRETARY

Axilrod, D. L. ....Hutchinson

Barrett, E. E. ....Glencoe

Bolles, D. W.....Brownton

Clement, J. B.....Lester Prairie

Dorsey, J. H.....Glencoe

Dulude, S. ....Winsted

Hovorka, T. W. ....Glencoe

Maurer, E. L.....Brownton

Sheppard, Fred.....Hutchinson

Sheppard, P. E.....Hutchinson

Trutna, T. J.....Silver Lake

Wakefield, Kee .....Hutchinson

## Scott-Carver County Medical Society

Regular meetings, first Thursday in March, June, September and December

Annual meeting in December

## PRESIDENT

Schneider, H. A.....Jordan

## SECRETARY

Reiter, H. W. ....Shakopee

Bohland, F. J.....Belle Plaine

Fischer, H. P.....Shakopee

Grivelli, C. T.....Young America

Grivelly, H. J.....Hohenwald, Tenn.

Landenberger, John....New Prague

McKeon, James.....Montgomery

Moloney, G. R.....Belle Plaine

Novac, Edward E.....New Prague

Phillips, W. H.....Jordan

Pozdena, Otto R..Winfield Jc., L. I.

Smith, H. O.....Shakopee

Soper, John E. ....Norwood

## Goodhue County Medical Society

Regular Meetings, the first Tuesday after the first Monday in January, April, July and October

## PRESIDENT

Conley, H. E.....Cannon Falls

## SECRETARY

Conley, A. T.....Cannon Falls

Anderson, J. V. ....Red Wing

Backe, Edmund .....Kenyon

Cremer, M. H.....Red Wing

Cremer, P. H.....Cannon Falls

Dimmitt, F. W.....Red Wing

Gates, C. E.....Goodhue

Gates, J. A.....Kenyon

Haessly, S. B.....Red Wing

Hill, Charles.....Pine Island

Jaehnig, Bruno.....Red Wing

Jones, A. W.....Red Wing

Larson, O. O.....Zumbrota

McKaig, C. B.....Pine Island

McKinstry, H. L.....Red Wing

Overholt, G. H.....Kenyon

Sawyer, H. P.....Goodhue

Smith, M. W.....Red Wing

Wellner, G. C.....Red Wing

Werner, N. J.....Red Wing

## Rice County Medical Society

Regular meetings, January, April, July and October

Annual meeting in January

## PRESIDENT

Rogers, A. C.....Faribault

## SECRETARY

Davis, F. U.....Faribault

Brubaker, E. E.....Northfield

Hunt, W. A.....Northfield

Huxley, F. R.....Faribault

Macdonald, A.....Morristown

Mayland, M. L.....Faribault

Phillips, J. G.....Northfield

Phillips, J. R.....Northfield

Pringle, A. F.....Northfield

Robillard, W. H.....Faribault

Rose, F. M.....Faribault

Rumpf, W. H.....Faribault

Seeley, J. S.....Faribault

Smith, P. A.....Faribault

Strang, D. M.....Northfield

Warren, E. S.....Faribault

Warren, J. S.....Faribault

Wilson, W.....Northfield

Wylie, A. R. T.....Faribault

## Wabasha County Medical Society

Regular meeting (annually) first Thursday after first Monday in July

## PRESIDENT

Ingram, L. C.....Zumbro Falls

## SECRETARY

Wilson, W. F. ....Lake City

Adams, W. T. ....Elgin

Asbury, J. T.....Wabasha

Bayley, E. H.....Lake City

Cochrane, W. J.....Lake City

Davis, J. P.....Hammond

Dempsey, D. P.....Kellogg

Dougherty, J. P.....Wabasha

French, E. A.....Plainview

McGuigan, Henry T.....Mazeppa

Slocumb, J. A.....Plainview

## EIGHTH DISTRICT

COUNCILOR, A. O. BJELLAND.....Mankato

## Blue Earth County Medical Society

Regular meetings last Monday of each month

Annual meeting, December meeting

PRESIDENT  
Bjelland, A. O.....Mankato

SECRETARY  
Kelly, T. C.....North Mankato

Andrews, J. W.....Mankato  
Andrews, Roy N.....Mankato  
Benham, E. W.....Mankato  
Bigelow, Charles E.....Madison Lake  
Bomberger, F. J.....Mapleton  
Coon, Wm. F.....Minneapolis  
Curran, G. R.....Mankato

Dahl, G. A. ....Mankato  
Davis, E. J. ....Minnehaha  
Edwards, J. M.....Mankato  
Grimes, H. B.....Lake Crystal  
Hering, H. H.....Lake Crystal  
Hielscher, J. A. ....Mankato  
Holbrook, J. S. ....Mankato  
Holman, C. J.....Mankato  
Hughes, Helen.....Mankato  
Hughes, Jane.....Mankato  
James, J. H.....Mankato  
Krueger, L. W.....Mapleton

Liedloff, A. G.....Mankato  
McMicheal, O. H.....Vernon Center  
Macbeth, J. L.....St. Clair  
Merrill, J. E.....Amboy  
Osborn, Lida.....Mankato  
Schleselman, J. T...Good Thunder  
Schmitt, A. F.....Mankato  
Smith, D. D.....Mankato  
Tyrrell, J. B.....Waterville  
Williams, John.....Lake Crystal

## Dodge County Medical Society

Regular meetings, third Wednesday in January, May, and September

Annual meeting in May

PRESIDENT  
Thimsen, N. C.....Hayfield

SECRETARY  
Davis, F. W.....Kasson

Adams, R. T.....Mantorville  
Baker, A. L. ....Kasson  
Belt, W. E.....Dodge Center  
Bigelow, C. S.....Dodge Center

Clifford, F. F.....West Concord  
Harrison, E. E.....West Concord  
Way, O. F.....Clairmont

## Freeborn County Medical Society

Regular meetings, fourth Tuesday in May and November

Annual meeting in May

PRESIDENT  
Barck, G. W.....Albert Lea

SECRETARY  
Rodli, O. E.....Albert Lea

Bessessen, W. A.....Albert Lea

Burton, O. A. ....Albert Lea  
Calhoun, Frank W.....Albert Lea  
Christiansen, James .....Alden  
Freeman, J. P. ....Glenville  
Gordon, David.....Albert Lea  
Hood, Mary E. ....Albert Lea

Nannestad, J. R.....Albert Lea  
Palmer, W. L.....Albert Lea  
Todd, W. E.....Albert Lea  
Von Berg, J. P.....Albert Lea  
Wedge, A. C.....Albert Lea  
Wilcox, H. H....Hot Springs, S. D.

## Houston-Fillmore County Medical Society

Regular meetings, May and October; one midsummer meeting

Annual meeting in October

PRESIDENT  
Dunn, J. T.....Wykoff

SECRETARY  
Fischer, O. F.....Houston  
Browning, W. E. ....Caledonia  
Cady, C. W.....Mabel

Eby, C. B.....Spring Valley  
Hart, A. B.....Canton  
Hvoslef, J. C. ....Lanesboro  
Jensen, T.....Spring Grove  
Love, George A.....Preston  
Nass, H. A.....Mabel

Onsgard, C. K.....Rushford  
Onsgard, L. K.....Houston  
Reay, G. R.....Hokah  
Rhines, D. C.....Caledonia  
Utley, J. D.....Spring Valley  
Woodruff, C. W.....Chatfield

## Mower County Medical Society

Regular meetings second Wednesday of January, April, July and October

Annual meeting in October

PRESIDENT  
Leck, Clifford.....Austin

SECRETARY  
Hegge, O. H.....Austin

Allen, A. W.....Austin  
Benedict, E. E.....Racine  
Cobb, W. F.....Lyle

Collins, A. N.....Austin  
Fiester, Fannie K.....Austin  
Frazier, W. A.....Lyle  
Gray, G. W.....Brownsdale  
Hart, M. J.....LeRoy  
Hegge, C. A.....Austin  
Henslin, A. E.....LeRoy  
Johnson, C. H.....Austin

Lewis, C. F.....Austin  
Lynde, C. V.....Rose Creek  
McKenna, W. H.....Austin  
Mitchell, R. S.....Grand Meadow  
Peirson, Homer F.....Austin  
Schottler, G. J.....Dexter  
Smith, E. V.....Adams  
Worthing, T. E. M.....Austin

## Olmsted County Medical Society

Regular Meetings, first Friday after first Monday in every other month

Annual meeting in January

PRESIDENT  
Heyerdaale, O. C.....Rochester

SECRETARY  
Crewe, John E.....Rochester

Adams, A. S.....Rochester  
Beckman, E. H.....Rochester  
Braasch, W. F.....Rochester  
Burns, Frank W.....Stewartville  
Dugan, R. C.....Eyota  
Fawcett, Charles .....Stewartville

Giffin, H. Z.....Rochester  
Graham, C.....Rochester  
Granger, Charles T.....Rochester  
Henderson, M. S.....Rochester  
Joyce, George T.....Rochester  
Judd, E. S.....Rochester  
Kilbourne, A. F.....Rochester  
Lane, Laura A.....Chicago, Ill.  
Linton, Laura A.....Rochester  
McCartv, W. C.....Rochester  
Matthews, Justus.....Rochester

Mayo, C. H.....Rochester  
Mayo, W. J.....Rochester  
Mosse, F. R.....Rochester  
Plummer, H. S.....Rochester  
Russell, H. R.....Stewartville  
Smith, Margaret.....Rochester  
Stacey, Lida.....Rochester  
Stevens, Geo. ....Byron  
Stinchfield, A. W.....Rochester  
Wilson, L. B.....Rochester  
Witherstone, H. H.....Rochester

## Steele County Medical Society

Regular meetings, first Tuesday in the odd-numbered months

## Annual meeting in January

PRESIDENT  
Morehouse, G. G. .... Owatonna

SECRETARY  
Stewart, Allan B. .... Owatonna

Adair, John H. .... Owatonna  
Bigelow, Edward E. .... Owatonna  
Eustis, W. C. .... Owatonna  
Hatch, Theo. L. .... Owatonna  
Melby, Benedick.. Blooming Prairie

Schulze, George. .... Owatonna  
Smersh, Francis M. .... Owatonna  
Wood, H. G. .... Blooming Prairie  
Wood, W. S. .... Blooming Prairie

## Waseca County Medical Society

Regular meetings, first Monday in January, April, July and October

## Annual meeting in January

PRESIDENT  
Taylor, M. J. .... Janesville

SECRETARY  
Blanchard, H. G. .... Waseca

Batchelder, E. J. .... New Richland  
Chamberlin, W. A. .... Waseca  
Cory, Wm. M. .... Waterville  
Cummings, D. S. .... Waseca  
Greene, F. W. .... Waterville

Hagen, H. O. .... New Richland  
Lynn, J. F. .... Waseca  
Mellenthin, M. A. .... Janesville  
O'Hara, J. J. .... Janesville  
Swartwood, F. A. .... Waseca

## Winona County Medical Society

Regular meetings, first Tuesday in January, April, July and October

## Annual meeting in January

PRESIDENT  
Robbins, C. P. .... Winona

SECRETARY  
McGaughey, H. F. .... Winona

Brown, Harry .... Rollingstone  
Clark, C. N. .... St. Charles  
Dolder, Felix C. .... St. Charles  
Dudley, H. D. ....  
..... Cananea, Sonora, Mexico

Gates, G. L. .... Winona  
Heise, W. F. C. .... Winona  
Keyes, E. D. .... Winona  
Leicht, Oswald. .... Winona  
Lichtenstein, H. M. .... Winona  
Lindsay, W. V. .... Winona  
Lynch, J. L. .... Winona  
McLaughlin, E. M. .... Winona  
Muir, Edwin S. .... Winona  
Munger, L. H. .... Winona

Neumann, W. H. .... Lewiston  
Olsen, O. R. .... St. Charles  
Pritchard, D. B. .... Winona  
Rollins, F. H. .... St. Charles  
Scott, J. W. .... St. Charles  
Steinbach, John. .... Winona  
Stewart, D. A. .... Winona  
Tweedy, G. J. .... Winona

## ALPHABETICAL ROSTER

Abbott, A. W. .... Minneapolis  
Abbott, C. U. .... Aurora  
Abbott, Wm. P. .... Duluth  
Aborn, Wm. H. .... Hawley  
Abramovitch, J. H. .... St. Paul  
Adair, F. L. .... Minneapolis  
Adair, John H. .... Owatonna  
Adams, A. S. .... Rochester  
Adams, B. S. .... Hibbing  
Adams, J. L. .... Morgan  
Adams, R. C. .... Bird Island  
Adams, R. T. .... Mantorville  
Adams, W. T. .... Elgin  
Aitkens, H. B. .... Le Sueur  
Aldrich, A. G. .... Minneapolis  
Aldrich, F. H. .... Belview  
Alexander, F. H. .... Barnesville  
Aling, C. P. .... Minneapolis  
Allen, A. W. .... Austin  
Allen, H. W. .... Minneapolis  
Altnow, Hugo A. .... Brainerd  
Ancker, A. B. .... St. Paul  
Anderson, A. E. .... Minneapolis  
Anderson, C. A. .... Rush City  
Anderson, Ernest A. .... Holdingford  
Anderson, J. D. .... Minneapolis  
Anderson, J. V. .... Red Wing  
Anderson, W. S. .... Warren  
Andrews, J. W. .... Mankato  
Andrews, Roy N. .... Mankato  
Angell, W. A. .... Minneapolis  
Annis, H. B. .... Minneapolis  
Arey, H. C. .... Excelsior  
Armstrong, J. M. .... St. Paul  
Armstrong, L. W. .... Breckenridge  
Arneson, Thomas. .... Frederick, Wis.  
Artz, Herbert L. .... Jackson  
Asbury, J. T. .... Wabasha  
Ashlev, Paul L. .... Virginia  
Aspeland, S. J. .... Minneapolis  
Aune, Martin. .... Minneapolis  
Aurand, W. H. .... Minneapolis  
Aurness, F. A. .... Minneapolis  
Austin, Edward E. .... Minneapolis  
Avery, J. Fowler. .... Minneapolis  
Awty, W. J. .... Moorhead  
Axilrod, D. L. .... Hutchinson  
Ayers, G. T. .... Ely  
Aylmer, A. L. .... Minneapolis

Packe, Edmund. .... Kenyon  
Bacon, C. G. .... Marshall  
Bacon, H. P. .... Milaca  
Bacon, Knox. .... St. Paul  
Bacon, L. C. .... St. Paul  
Bacon, R. S. .... Montevideo  
Bagley, W. R. .... Duluth  
Baier, Florence C. .... Minneapolis  
Baker, A. C. .... Fergus Falls  
Baker, A. L. .... Kasson  
Baker, J. F. .... Forest Lake, Minn.  
Bakke, O. H. .... Minneapolis  
Balcom, G. G. .... Lake Wilson  
Barber, J. P. .... Minneapolis  
Barck, G. W. .... Albert Lea  
Barclay, A. .... Cloquet  
Barrett, E. E. .... Glencoe  
Barrett, F. .... Gilbert  
Barsness, Nellie. .... St. Paul  
Barton, E. R. .... Frazee  
Barton, G. C. .... Minneapolis  
Bass, G. W. .... Minneapolis  
Batchelder, E. J. .... New Richland  
Batcheller, Oliver T. .... Brainerd  
Baxter, S. H. .... Minneapolis  
Bayley, E. H. .... Lake City  
Beachler, G. F. .... Minneapolis  
Beadie, W. D. .... Windom  
Beard, R. O. .... Minneapolis  
Beaty, J. H. .... St. Cloud  
Beck, W. M. .... Hanley Falls  
Beckley, F. L. .... St. Paul  
Beckman, E. H. .... Rochester  
Beebe, Warren L. .... St. Cloud  
Behrens, B. M. .... Minneapolis  
Beise, R. A. .... Brainerd  
Bell, J. W. .... Minneapolis  
Belsheim, A. G. .... Aitkin  
Belt, W. E. .... Dodge Center  
Benedict, E. E. .... Racine  
Benep, L. M. .... St. Paul  
Benham, E. W. .... Mankato  
Benjamin, A. E. .... Minneapolis  
Bennion, P. H. .... St. Paul  
Benson, G. E. .... Minneapolis  
Benson, Iver S. .... Jackson  
Benson, O. O. .... Sacred Heart  
Bergh, L. N. .... Montevideo  
Bertelson, O. L. .... Crookston

Berthold, J. L. .... Perham  
Bessessen, A. N. .... Minneapolis  
Bessessen, W. A. .... Albert Lea  
Bettingen, J. W. .... St. Paul  
Bigelow, Charles E. .... Madison Lake  
Bigelow, C. S. .... Dodge Center  
Bigelow, Edward E. .... Owatonna  
Rishon, C. W. .... Minneapolis  
Bissell, Frank S. .... Minneapolis  
Bjelland, A. O. .... Mankato  
Blacklock, S. S. .... Hibbing  
Blake, James. .... Hopkins  
Blanchard, H. G. .... Waseca  
Blomburgh, A. F. .... Minneapolis  
Boeckmann, E. .... St. Paul  
Boehm, J. C. .... St. Cloud  
Boland, E. H. .... St. Paul  
Bohland, F. J. .... Belle Plaine  
Bole, R. S. .... St. Paul  
Boleyn, E. S. .... Stillwater  
Bolles, D. W. .... Brownton  
Bolsta, Chas. .... Ortonville  
Bomberger, F. J. .... Mapleton  
Bong, J. H. .... Jasper  
Rouman, H. A. .... Minneapolis  
Boxell, E. C. .... St. Paul  
Boyd, C. A. .... Redwood Falls  
Boyd, H. J. .... Alexandria  
Boyer, S. H. .... Duluth  
Braasch, W. F. .... Rochester  
Brabec, F. J. .... Perham  
Bracken, H. M. .... St. Paul  
Braden, A. J. .... Duluth  
Bradley, C. H. .... Minneapolis  
Brand, W. A. .... Redwood Falls  
Branton, Berton J. .... Willmar  
Bratrud, Theodore. .... Warren  
Bray, C. W. .... Biwabik  
Bray, E. R. .... St. Paul  
Brede, W. G. .... Minneapolis  
Brigham, Charles F. .... St. Cloud  
Brigham, F. T. .... Watkins  
Brigham, G. S. .... St. Cloud  
Brimhall, J. B. .... St. Paul  
Bristol, L. D. .... St. Paul  
Broberg, J. A. .... Blue Earth  
Brooks, G. F. .... Stevenson  
Brown, A. H. .... Pipestone  
Brown, E. J. .... Minneapolis



Brown, Harry .....Rolling Stone  
Brown, P. F. ....Eveleth  
Brown, R. S. ....Minneapolis  
Browning, W. E. ....Caledonia  
Brubaker, E. E. ....Northfield  
Brunelle, A. M. ....Cloquet  
Bryant, O. R. ....Minneapolis  
Buckley, E. W. ....St. Paul  
Budd, J. D. ....Two Harbors  
Bullen, F. W. ....Hibbing  
Burch, F. ....St. Paul  
Burfiend, G. H. ....Afton  
Burnap, W. L. ....Pelican Rapids  
Burns, Frank W. ....Stewartville  
Burns, M. A. ....Milan  
Burton, C. N. ....Elmore  
Burton, O. A. ....Albert Lea  
Bushey, M. E. ....Arlington  
Buser, J. R. ....Biwabik  
Butchart, G. N. ....Hibbing  
Butler, John. ....Minneapolis  
Butz, J. A. ....Monterey  
Byrnes, W. J. ....Minneapolis

Cady, C. W. ....Mabel  
Caine, C. E. ....Morris  
Caldwell, D. K. ....St. Paul  
Calhoun, Frank W. ....Albert Lea  
Cameron, W. G. ....Staples  
Campbell, J. E. ....South St. Paul  
Campbell, R. A. ....Minneapolis  
Carlaw, C. M. ....Minneapolis  
Carman, Chas. L. ....St. Paul  
Carman, J. B. ....Detroit  
Carman, J. E. ....Detroit  
Carpenter, C. C. ....Ely  
Carpenter, G. S. ....Glenham, S. D.  
Carson, J. H. ....Duluth  
Cary, H. E. ....Minneapolis  
Cassell, H. E. ....Litchfield  
Cates, A. B. ....Minneapolis  
Catlin, John J. ....Buffalo  
Cavanaugh, J. O. ....St. Paul  
Chamberlin, J. W. ....St. Paul  
Chamberlin, W. A. ....Waseca  
Chambers, W. C. ....Blue Earth  
Chapman, O. S. ....Minneapolis  
Chapman, T. L. ....Duluth  
Chapman, W. E. ....Litchfield  
Cheney, E. L. ....Duluth  
Chilton, E. Y. ....Howard Lake  
Chowning, Wm. W. ....Minneapolis  
Christenson, C. R. ....Starbuck  
Christiansen, James .....Alden  
Christie, George R. ....Long Prairie  
Christison, J. I. ....St. Paul  
Cirkler, A. A. ....Minneapolis  
Clark, C. N. ....St. Charles  
Clark, T. C. ....Stillwater  
Clay, E. M. ....Renville  
Clement, J. B. ....Lester Prairie  
Clement, L. O. ....Lamberton  
Clifford, F. F. ....West Concord  
Cobb, W. F. ....Lyle  
Cochrane, W. J. ....Lake City  
Cockburn, J. C. ....Minneapolis  
Cohen, H. A. ....Minneapolis  
Cole, Herman B. ....Franklin  
Collins, H. ....Duluth  
Collins, A. N. ....Austin  
Collins, Herbert O. ....Minneapolis  
Colvin, A. R. ....St. Paul  
Comstock, A. E. ....St. Paul  
Condit, W. H. ....Minneapolis  
Conkey, C. D. ....Duluth  
Conley, A. T. ....Cannon Falls  
Conley, H. E. ....Cannon Falls  
Cook, H. W. ....Minneapolis  
Cook, Paul B. ....St. Paul  
Cooke, W. H. ....Minneapolis  
Cooley, C. O. ....Madella  
Coon, Geo. M. ....St. Paul  
Coon, Wm. F. ....Minneapolis  
Cooney, H. C. ....Princeton  
Cooper, D. J. ....Dent  
Corbett, J. F. ....Minneapolis  
Cory, Wm. M. ....Waterville  
Cosgrove, J. H. ....Taconite  
Cosman, E. O. ....Minneapolis  
Coulter, Chas. F. ....Wadena  
Courtney, Walter .....Brainerd  
Cowentry, W. A. ....Duluth  
Cowing, Phil. G. ....Ashby  
Cowles, D. C. ....Minneapolis  
Cox, A. J. ....Tyler  
Crafts, Leo M. ....Minneapolis  
Cremer, M. H. ....Red Wing  
Cremer, P. H. ....Cannon Falls  
Cressey, F. J. ....Granite Falls  
Crewe, John E. ....Rochester  
Crosby, J. A. ....Minneapolis

Cross, Jno. G. ....Minneapolis  
Crowe, J. H. ....Virginia  
Crowley, J. M. ....Elsworth  
Crume, Geo. P. ....Minneapolis  
Cummings, D. S. ....Waseca  
Cuirran, G. R. ....Mankato  
Cutts, G. A. C. ....Grove City

Dahl, G. A. ....Mankato  
Dahleen, H. E. ....St. Paul  
Daignault, Oscar .....Benson  
Dampier, C. E. ....Crookston  
Daniels, J. W. ....St. Peter  
Danielson, Karl A. ....Litchfield  
Darling, J. B. ....St. Paul  
Darrow, Daniel C. ....Moorhead  
Dart, L. O. ....Minneapolis  
Daugherty, E. B. ....Duluth  
Daugherty, L. E. ....Eveleth  
Davis, A. M. ....Akeley  
Davis, E. J. ....Minnehaha  
Davis, H. S. ....Duluth  
Davis, F. U. ....Faribault  
Davis, F. W. ....Kasson  
Davis, H. W. ....St. Paul  
Davis, J. P. ....Hammond  
Davis, L. A. ....Dalton  
Davis, William .....St. Paul  
Davison, P. C. ....Clara City  
Dawson, C. A. ....Minneapolis  
Day, L. W. ....Minneapolis  
Dearborn, B. S. ....Minneapolis  
Dempsey, D. P. ....Kellogg  
Dennis, W. A. ....St. Paul  
Denniston, C. ....Crookston  
Deslauriers, A. A. ....Duluth  
Desmond, M. A. ....Akeley  
Detling, F. E. ....Duluth  
Deziel, G. ....Minneapolis  
Dimmitt, F. W. ....Red Wing  
Disen, C. F. ....Minneapolis  
Dodge Franklin A. ....Le Sueur  
Dodge, W. M. ....Farmington, Minn.  
Dohm, A. J. ....St. Paul  
Dolan, C. P. ....Worthington  
Dolder, Felix C. ....St. Charles  
Donaldson, C. A. ....Minneapolis  
Donovan, J. J. ....Eden Valley  
Dorsey, J. H. ....Glencoe  
Dougherty, J. P. ....Wabasha  
Doxey, George L. ....Edgerton  
Drechsler, Herman .....St. Paul  
Dredge, H. P. ....Sandstone  
Drenning, F. C. ....Duluth  
Driesbach, N. ....Minneapolis  
DuBois, Julian A. ....Sauk Center  
Duclos, J. A. ....Henderson  
Dudley, H. D. ....  
.....Cananea, Sonora, Mexico  
Dugan, R. C. ....Eyota  
Dulude, S. ....Winsted  
Dunlop, A. H. ....Crookston  
Dunn, John B. ....St. Cloud  
Dunn, J. T. ....Wykoff  
Dunsmoor, F. A. ....Minneapolis  
Durgin, F. L. ....Winnebago  
Dutton, C. E. ....Minneapolis

Eberlin, E. A. ....Glenwood  
Eby, C. B. ....Spring Valley  
Edmunds, I. I. ....St. Cloud  
Edwards, J. M. ....Mankato  
Egge, T. S. ....Moorhead  
Ehmke, W. C. ....Willow River  
Eichmann, Johann .....Torah  
Eitel, Geo. G. ....Minneapolis  
Eklund, J. J. ....Duluth  
Enderess, J. K. ....St. Paul  
Erb, Frederick A. ....Minneapolis  
Erdmann, Chas. A. ....Minneapolis  
Erickson, J. G. ....Minneapolis  
Fustis, Warren C. ....Owatonna  
Ewing, C. F. ....Wheaton

Fahey, E. W. ....Duluth  
Farley, F. X. ....Crookston  
Farmer, J. C. ....McKinley  
Farr, R. E. ....Minneapolis  
Fawcett, Charles .....Stewartville  
Ferguson, James B. ....Olivia  
Ferree, George P. ....Grant Park, Ill.  
Fiestler, Fannie K. ....Austin  
Fifield, Emily W. ....Minneapolis  
Fischer, H. P. ....Shakopee  
Fischer, O. F. ....Houston  
FitzGerald, Don F. ....Minneapolis  
Fjelstad, C. A. ....Glenwood  
Flagg, S. D. ....St. Paul  
Flemming, James .....Cloquet

Flower, Ward Z. ....Gibbon  
Foote, Lucius F. ....Minneapolis  
Forbes, H. J. ....Winnebago  
Fosness, Edith G. ....St. Paul  
Foster, Burnside .....St. Paul  
Francis, S. O. ....White Bear  
Francis, H. M. ....Sparta  
Franchino, Francesco .....St. Paul  
Franklin, A. J. ....Blue Earth City  
Franzen, H. G. ....Minneapolis  
Frasier, G. W. ....Detroit  
Frazer, W. A. ....Lyle  
Freeborn, J. A. ....Feigus Falls  
Freeman, Charles .....St. Paul  
Freeman, George H. ....St. Peter  
Freeman, J. P. ....Glennville  
Freligh, E. O. B. ....Stillwater  
French, E. A. ....Plainview  
Friesleben, William .....Sauk Rapids  
Fritschie, L. A. ....New Ulm  
Froehlich, H. W. ....Pine City  
Frost, E. H. ....Willmar  
Fryberger, W. O. ....Minneapolis  
Fullerton, W. S. ....St. Paul  
Furber, W. W. ....Cottage Grove

Gambell, F. H. ....Thief River Falls  
Gammell, H. W. ....Madison  
Gans, E. M. ....Eveleth  
Gates, C. E. ....Goodhue  
Gates, G. L. ....Winona  
Gates, J. A. ....Kenyon  
Geer, E. F. ....St. Paul  
Geist, Emil S. ....Minneapolis  
George, Jas. W. ....Aitkin  
Gerber, Lou M. ....Jasper  
Germo, Chas. ....Balaton  
Geyerman, P. T. ....Worthington  
Ghent, M. M. ....St. Paul  
Gibson, C. P. ....Redwood Falls  
Giere, E. O. ....Madison  
Giffin, H. Z. ....Rochester  
Gilkinson, A. J. ....Osakis  
Gillette, A. J. ....St. Paul  
Gillispi, N. H. ....Duluth  
Gordon, David .....Albert Lea  
Gordon, G. J. ....Minneapolis  
Gosslee, G. L. ....Wabasso  
Gould, J. B. ....Minneapolis  
Graham, B. F. ....Minneapolis  
Graham, C. ....Rochester  
Graham, D. ....West Duluth  
Graham, R. ....Duluth  
Granger, Charles T. ....Rochester  
Graves, Carlton .....Aitkin  
Gray, C. E. ....Rush City  
Gray, F. D. ....Vesta  
Gray, G. W. ....Brownsdale  
Grawn, F. A. ....Duluth  
Greeley, L. Q. ....Duluth  
Green, E. K. ....Minneapolis  
Greene, C. A. ....Windom  
Greene, F. W. ....Waterville  
Grimes, H. B. ....Lake Crystal  
Grivell, C. T. ....Young America  
Grivelly, H. J. ....Hohenwald, Tenn.  
Groves, A. F. ....Brainerd  
Gulford, H. M. ....Minneapolis  
Gunz, A. N. ....Centre City

Hacking, F. H. ....Granite Falls  
Haessly, S. B. ....Red Wing  
Hagen, G. L. ....Minneapolis  
Hagen, H. O. ....New Richland  
Hagen, Ole J. ....Moorhead  
Haggard, G. D. ....Minneapolis  
Haines, J. H. ....Stillwater  
Hall, A. R. ....St. Paul  
Hall, Elmer E. ....Little Falls  
Hall, Pearl M. ....Minneapolis  
Hall, W. A. ....Minneapolis  
Hallowell, Wm. H. ....Minneapolis  
Hamel, C. E. ....Duluth  
Hamilton, A. S. ....Minneapolis  
Hammes, E. M. ....St. Paul  
Hand, W. R. ....Elbow Lake  
Haney, C. L. ....Duluth  
Hanscome, W. C. ....Minneapolis  
Hansom, M. O. ....Dassel  
Hanson, M. ....Hendrum  
Hare, E. R. ....Minneapolis  
Hard, A. D. ....Marshall  
Harding, J. C. ....St. Paul  
Harrah, J. W. ....Minneapolis  
Harrington, C. D. ....Minneapolis  
Harrison, E. E. ....West Concord  
Hart, A. B. ....Canton  
Hart, M. J. ....LeRoy  
Hartung, H. A. ....Le Sueur  
Hartzell, Thos. B. ....Minneapolis

- Harwood, W. E. .... Eveleth  
Haskell, A. D. .... Carlos  
Hatch, Theodore L. .... Owatonna  
Haugan, G. T. .... Battle Lake  
Haugan, O. M. .... Fergus Falls  
Hauge, M. M. .... Clarkfield  
Haverfield, Addie R. .... Minneapolis  
Hawkins, E. P. .... Montrose  
Hawkins, V. J. .... St. Paul  
Haynes, B. H. .... St. James  
Haynes, F. E. .... Minneapolis  
Head, Geo. D. .... Minneapolis  
Heath, A. C. .... St. Paul  
Hedback, A. E. .... Minneapolis  
Hegge, C. A. .... Austin  
Hegge, O. H. .... Austin  
Heimark, J. H. .... Gary  
Heimark, O. E. .... Hawley  
Heise, W. F. C. .... Winona  
Helger, D. D. .... St. Paul  
Helk, H. H. .... Minneapolis  
Holland, J. W. .... Maynard  
Henderson, A. .... St. Paul  
Henderson, M. S. .... Rochester  
Hendrickson, J. F. .... Fertile  
Henry, C. E. .... Minneapolis  
Hensel, E. A. .... Alexandria  
Henslin, A. E. .... LeRoy  
Hering, H. H. .... Lake Crystal  
Hesselgrave, S. S. .... St. Paul  
Heyerdale, O. C. .... Rochester  
Hielscher, J. A. .... Mankato  
Higgins, J. H. .... Minneapolis  
Hilbert, Pierre A. .... Melrose  
Hildebrandt, Ernest. .... Forest City  
Hill, A. L. .... Monticello  
Hill, Charles. .... Pine Island  
Hill, Eleanor J. .... Minneapolis  
Hill, R. J. .... Minneapolis  
Hirschfeld, Adolph. .... Minneapolis  
Hirschfeld, M. S. .... Duluth  
Hodgson, H. H. .... Crookston  
Hoegh, Knut. .... Minneapolis  
Hoff, Peder A. .... St. Paul  
Hoftoe, Ole T. .... New London  
Hoidale, A. D. .... Tracy  
Hoit, Edward E. .... Detroit  
Holl, Peter M. .... Minneapolis  
Holbrook, J. S. .... Mankato  
Holcomb, O. W. .... St. Paul  
Holdridge, Geo. A. .... Browerville  
Holman, C. J. .... Mankato  
Holman, E. E. .... Pine River  
Holst, C. F. .... Little Falls  
Holst, J. B. .... Little Falls  
Holte, H. .... Crookston  
Hood, Mary E. .... Albert Lea  
Hopkins, Mary. .... St. Paul  
Hovde, A. G. .... Superior, Wis.  
Hovde, Hans N. .... Duluth  
Hovorka, T. W. .... Glencoe  
Hubert, R. I. .... St. Cloud  
Hughes, Helen. .... Mankato  
Hughes, Jane. .... Mankato  
Hulburd, H. L. .... Morris  
Humiston, Ray. .... Worthington  
Humphrey, E. W. .... Moorhead  
Humphrey, W. R. .... Stillwater  
Hunt, F. N. .... Blue Earth City  
Hunt, W. A. .... Northfield  
Hunter, C. H. .... Minneapolis  
Hutchins, E. A. .... Minneapolis  
Huxley, F. R. .... Faribault  
Hvoslef, Jakob. .... Minneapolis  
Hvoslef, J. C. .... Lanesboro  
Hynes, James. .... Minneapolis  
Hynes, J. E. .... Minneapolis
- Ingram, L. C. .... Zumbrota  
Ide, A. W. .... Brainerd  
Irish, P. H. .... Akeley  
Irwin, A. F. .... Minneapolis
- Jacobs, A. C. .... Elmore  
Jacobs, J. C. .... Willmar  
Jacobson-Keats, Julia M. .... Mpls.  
Jackola, John. .... Duluth  
Jaehrig, Bruno. .... Red Wing  
James, J. H. .... Mankato  
Jellison, E. R. .... Foley  
Jensen, J. C. .... Hendricks  
Jensen, M. J. .... Minneapolis  
Jensen, T. .... Spring Grove  
Jenson, T. J. .... Madelia  
Jern, J. H. .... West Duluth  
Johnson, A. E. .... Madison  
Johnson, A. E. .... Minneapolis  
Johnson, Christian. .... Willmar  
Johnson, C. H. .... Austin  
Johnson, Hans. .... Kerkhoven  
Johnson, H. Amanda. .... Minneapolis  
Johnson, H. M. .... Dawson
- Johnson, H. P. .... Fairmont  
Johnson, Julius. .... Minneapolis  
Johnson, J. V. .... Eveleth  
Johnson, Nimrod A. .... Minneapolis  
Johnson, Oscar V. .... Sebeka  
Jones, A. W. .... Red Wing  
Jones, D. C. .... St. Paul  
Jones, D. N. .... Gaylord  
Jones, E. M. .... St. Paul  
Jones, Herbert W. .... Minneapolis  
Jones, S. S. .... Frazee  
Jones, Talbot. .... St. Paul  
Jones, W. A. .... Minneapolis  
Joyce, Geo. T. .... Rochester  
Judd, E. S. .... Rochester  
Judson, W. E. .... W. Duluth
- Kaess, A. J. .... Fargo, N. D.  
Kalinfoff, D. .... Stillwater  
Kane, J. P. .... Delano  
Kannary, E. L. .... St. Paul  
Kanne, C. W. .... Arlington  
Karn, B. R. .... Ortonville  
Karn, J. .... Ortonville  
Kauffman, John H. .... Dassel  
Kean, N. D. .... Coleraine  
Keifer, M. A. .... Sleepy Eye  
Kelly, B. W. .... Aitkin  
Kelly, E. S. .... Minneapolis  
Kelly, T. C. .... North Mankato  
Kelly, W. D. .... St. Paul  
Kenyon, Paul E. .... Wadena  
Kennedy, Jane F. .... Minneapolis  
Kern, Max J. .... St. Cloud  
Keyes, C. R. .... West Duluth  
Keyes, E. D. .... Winona  
Kilbourne, A. F. .... Rochester  
Kilvington, S. S. .... Hopkins  
Kimball, H. H. .... Minneapolis  
King, Emil. .... Fulda  
King, H. V. .... St. Paul  
Kinney, R. H. .... Minneapolis  
Kirghis, A. J. .... Sauk Center  
Kirkwood, S. M. .... St. Paul  
Kistler, A. S. .... St. Paul  
Kistler, C. M. .... Minneapolis  
Kistler, J. M. .... Minneapolis  
Kittleson, T. N. .... Fergus Falls  
Kjelland, J. S. .... Crookston  
Knauff, M. K. .... Two Harbors  
Knickerbocker, Frank H. .... Stanley  
Knight, Ray Robert. .... Minneapolis  
Knights, F. A. .... Minneapolis  
Knudson, B. C. .... Tyler  
Koch, J. C. .... Blackduck  
Kohler, Geo. A. .... Minneapolis  
Kraft, P. .... Duluth  
Kriedt, Dan'l. .... Minneapolis  
Krogstad, Olaf E. .... Minneapolis  
Krueger, L. W. .... Mapleton  
Kuhlmann, August. .... Melrose  
Kuske, A. L. .... Sanborn  
Kuth, J. R. .... Duluth
- Lalonde, Edmund. .... Torah  
Lalonde, J. N. .... Cold Spring  
Lamb, Harold L. .... Sauk Center  
Lampson, H. G. .... Minneapolis  
Lane, Laura A. .... Chicago, Ill.  
Landein, F. G. .... Stillwater  
Landenberger, John. .... New Prague  
Lankester, Howard. .... St. Paul  
Lapierre, C. A. .... Minneapolis  
Larsen, Carl L. .... Buffalo  
Larson, O. O. .... Zumbrota  
Law, A. A. .... Minneapolis  
Leavitt, Frederick. .... St. Paul  
Leavitt, H. H. .... Minneapolis  
Leck, Clifford. .... Austin  
Le Clerc, Joseph E. .... Le Sueur  
Lee, Thos. G. .... Minneapolis  
Lee, Wm. P. .... Fairfax  
Leech, Stuart W. .... Broton  
Leicht, Oswald. .... Winona  
Leland, J. T. .... Herman  
Leland, M. H. .... Minneapolis  
Lemieux, Israel. .... Red Lake Falls  
Lemke, G. F. .... St. Paul  
Lenont, C. B. .... Virginia  
Lerche, Wm. .... St. Paul  
Leuty, Amos. .... Morris  
Lewis, A. J. .... Mora  
Lewis, C. B. .... St. Cloud  
Lewis, C. F. .... Austin  
Lewis, Edwin J. .... Sauk Center  
Lewis, J. M. .... Minneapolis  
Lewis, W. W. .... St. Paul  
Lichtenstein, H. M. .... Winona  
Liedloff, A. G. .... Mankato  
Lind, A. .... Minneapolis
- Lind, C. J. .... Minneapolis  
Linde, Herman. .... Cyrus  
Lindsay, W. V. .... Winona  
Linnemann, N. L. .... Duluth  
Linton, Laura A. .... Rochester  
Linton, W. B. .... Minneapolis  
Litchfield, John T. .... Minneapolis  
Little, J. W. .... Minneapolis  
Little, W. J. .... St. Paul  
Litzenberg, J. C. .... Minneapolis  
Loberg, A. E. .... Minneapolis  
Lockwood, L. S. O. .... Minneapolis  
Long, Jesse. .... Minneapolis  
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Lowe, L. M. .... Glyndon  
Lowe, T. .... Pipestone  
Lowthian, G. H. .... Akeley  
Luedtke, G. H. .... Fairmont  
Lum, C. E. .... Duluth  
Lumley, W. A. .... Renville  
Lundholm, E. M. .... St. Paul  
Luther, Clara M. .... Minneapolis  
Lynam, F. .... Duluth  
Lynch, J. L. .... Winona  
Lynch, M. J. .... Minneapolis  
Lynch, R. F. .... Minneapolis  
Lynde, C. V. .... Rose Creek  
Lyng, J. F. .... Waseca  
Lyng, John. .... Alexandria
- McAuliffe, J. .... Duluth  
McCann, G. E. .... Nevis  
McCarty, W. C. .... Rochester  
McCarthy, W. J. .... Madelia  
McCollom, C. A. .... Minneapolis  
McComb, C. F. .... Duluth  
McCoy, Mary. .... Duluth  
McCuen, J. A. .... Duluth  
McDaniel, Orlan. .... Minneapolis  
McDavitt, Thos. .... St. Paul  
McDermott, T. E. .... Minneapolis  
McDonald, H. N. .... Minneapolis  
McDonald, I. C. .... Minneapolis  
McDougall, D. W. .... Le Sueur  
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McGaughey, H. F. .... Winona  
McGiffert, E. N. .... Duluth  
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McKaig, C. B. .... Pine Island  
McKenna, W. H. .... Austin  
McKeon, Jas. .... Montgomery  
McKinstry, H. L. .... Red Wing  
McLaren, Jennette M. .... St. Paul  
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McLaughlin, J. A. .... Minneapolis  
McLean, T. N. .... Fergus Falls  
McMasters, James M. .... Sauk Center  
McMichael, O. H. .... Vernon Center  
McMurdy, R. S. .... Minneapolis  
Macbeth, J. L. .... St. Clair  
Macdonald, A. .... Morristown  
Macdonald, Angus. .... St. Paul  
Macdonald, J. W. .... Minneapolis  
MacLaren, Archibald. .... St. Paul  
Macnie, J. S. .... Minneapolis  
Magie, W. H. .... Duluth  
Magnusson, H. V. .... Battle Lake  
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Maland, C. O. .... Minneapolis  
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Maloy, Geo. E. .... St. Cloud  
Mann, A. T. .... Minneapolis  
Manson, F. M. .... Worthington  
Marcley, Walter J. .... State Sanatorium  
Markoe, J. C. .... St. Paul  
Maschger, A. P. .... St. Paul  
Mathieson, G. B. .... Evansville  
Matthews, Justus. .... Rochester  
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May, C. C. .... Adrian  
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Mayo, C. H. .... Rochester  
Mayo, W. J. .... Rochester  
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Mee, P. H. .... Gaylord  
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Melby, O. F. .... Thief River Falls  
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Merrill, J. E. .... Amboy  
Merritt, Geo. F. .... St. Peter  
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Meyer, E. L. .... Minneapolis  
Miller, C. T. .... St. Paul



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 Miller, Victor I. .... Westbrook  
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 Mintener, J. W. .... Minneapolis  
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 Mitchell, R. S. .... Grand Meadow  
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 Moir, W. P. .... Biwabik  
 Moloney, G. R. .... Belle Plaine  
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 Muus, Peter ..... Albert Lea

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 Nelson, H. S. .... Minneapolis  
 Nelson, H. E. .... Crookston  
 Nelson, J. C. .... St. Paul  
 Nelson, L. A. .... St. Paul  
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 Seashore, D. E. .... West Duluth  
 Seashore, Gilbert ..... Minneapolis  
 Sedgwick, J. P. .... Minneapolis  
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 Slivertsen, Ivar ..... Minneapolis  
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 Slocumb, Maude S. .... Minneapolis  
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 Stevens, Geo. .... Byron  
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 Swennes, O. S. .... Lawrence

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 Taylor, A. C. .... Duluth  
 Taylor, C. W. .... Duluth  
 Taylor, H. L. .... St. Paul  
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 Vinje, Syver. .... Henning  
 Von Berg, J. P. .... Albert Lea  
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 Warne, E. G. .... St. Paul  
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 Warren, J. W. .... Faribault  
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 Watson, Charles W. .... Boyd  
 Watson, John. .... St. Louis Park  
 Watson, J. A. .... Minneapolis  
 Watson, N. M. .... Red Lake Falls  
 Watson, Thos. R. .... Clarissa  
 Watson, Tolbert. .... Albany  
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 Way, O. F. .... Clairmont  
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 Weeks, L. C. .... Detroit  
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 Weiser, F. R. .... Windom  
 Weiser, G. B. .... New Ulm  
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 Wellner, G. C. .... Red Wing  
 Wells, E. E. .... Stillwater  
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 Whiting, Arthur D. .... St. Cloud  
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 Wilcox, F. L. .... Walker  
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 Wilcox, Van H. .... Minneapolis  
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 Wood, W. S. .... Blooming Prairie  
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 Worthing, T. E. M. .... Austin  
 Wright, C. B. .... Minneapolis  
 Wright, C. D. .... Minneapolis  
 Wright, C. O. .... Luverne  
 Wright, F. R. .... Minneapolis  
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Zeen, Thos. .... North Branch  
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## PUBLISHER'S DEPARTMENT

### AUTOMOBILES

A. F. Chase & Co., the pioneer automobile house of Minneapolis, who are distributors for the Mitchell line of automobiles, are now located in their new spacious headquarters at 516, 518, 520 and 522 Third Avenue South. Their new building is one of the most convenient garages in the city. Mr. A. L. Dorr, the architect, has provided for an abundance of light throughout the building. Their building has a frontage of seventy-five feet, which affords an elegant show-room.

The Mitchell line includes a \$1,000.00 touring run-about, which has proven to be very popular among physicians. A. F. Chase & Co. have also recently issued their 1909 accessory catalog, which will be mailed to any automobile user upon request.

### MALTED MILK

The use of a light, nourishing, easily assimilated food like Horlick's Malted Milk in the dietetic treatment of pneumonia is frequently helpful in bringing about the desired results. There is sufficient pure milk incorporated with the soluble extracts of malted cereals

in its manufacture that it satisfies in itself every nutritive need of the system. It is a welcome relief from raw milk, and as it can be served hot or cold, plain or flavored, with an egg, as an ice cream, as a milk punch, or in the form of other delicious food drinks, it is easily adapted to the particular needs of any case. It supplies the maximum of nutrition with the minimum tax upon the digestive organs, and may be given at frequent intervals without any danger of distressing the patient.

### STAMMERING

The special attention of our readers is called to the advertisement of Mr. Wald. M. Duke's School for stammerers and other forms of defective speech. Mr. Duke has had a thorough training in the best schools of Europe, and his work in the Twin Cities has been of such a character as to receive the warmest commendation from such men as Prof. W. F. Webster, principal of the Minneapolis East High School, and Prof. H. W. Stack, principal of the St. Paul Teachers' Training School. No higher commendation could be given.

If any of our readers need such services for their patients, we believe no better training can be found in this country.

## FOR THE AMERICAN MEDICAL ASSOCIATION

All who are going to the meeting of the American Medical Association should early make choice of their route and reservation of sleeping-car berths. The Milwaukee makes an announcement in advertising pages that will interest our readers. This road will be the favorite of most physicians from the Northwest, as it has been in the past, and one who selects it is sure to meet practically all of the men going east through St. Paul and Minneapolis. Do not delay writing to the passenger department of the road.

## SECTIONAL FURNITURE

Do all of our readers know that Minneapolis is the birth-place of sectional furniture, and that today the handsomest and best sectional book-cases manufactured are made by the American Sectional Furniture Co. of Minneapolis? Such is the truth. And do all of our readers know what a joy a sectional book-case is? It is the only case suitable for good books, and so it will pay to drop this Company a card and ask for their catalogue.

## DEATH FROM ANESTHETICS

According to the British Medical Journal, a question recently put to the Secretary of State for the home department as to how many deaths occurred during the year 1907 in the metropolitan area and in the other parts of England and Wales, respectively, from the effects of the administration of anesthetics elicited the reply that the figures for the year 1907 were not yet available. But according to the verdicts of coroners' juries and the certificates of medical practitioners there were in the year 1906 64 deaths in London and 119 in the remainder of England and Wales, caused by anesthetics administered for operations. It was stated that there appeared to be some reason to doubt whether the certificates on which these returns were based were in all cases complete, and that there must necessarily sometimes be difficulty in determining if death under an anesthetic was caused by the anesthetic. It was proposed, therefore, to make further inquiry into the matter.

This report nevertheless shows the need of the utmost care and skill in administration, and the advisability of using all available means for reducing the risk. The use of "Kelene", pure chloride of ethyl (Fries Bros.) in their automatic glass spraying tubes, as adjuvant to chloroform or ether, renders the operation safer by minimizing the quantity of either drug to be used in general anesthesia.

## THE CONVALESCENT PATIENT

The convalescent patient, for purposes of apt comparison, may be appropriately likened to an exhausted army that has successfully withstood a fierce assault and rests upon its arms, after the victorious conclusion of a strenuous struggle for supremacy. The invading bacterial enemy, with his cohorts of toxins and ptomaines, attacked suddenly and viciously; the outer line of defence was overcome and the enemy strove mightily to intrench itself in, and draw sustenance from, the fluids and tissues of the organism. The physician—the general in command of the vital army—with his active lieutenants, Rest, Food, Fresh Air, and Intelligent Medication, rallied and brought forward his time-tried reserves, Nature's vast army of

leucocytes, phagocytes and opsonins, and, after a "Battle Royal," drove the invaders from the field.

In military operations, the careful and judicious commander, after such an active engagement, immediately sets to work to rally his shattered forces and to fill up his depleted ranks with new and fresh recruits, so that he may be fully prepared to successfully resist a possible second attack. Such should also be the aim and object of the medical general in command of the defending forces in the struggle between man and microbe. Special attention should be given to the reconstruction of the vital forces of the convalescent, to the end that relapses may be avoided and the patient's energies rapidly recruited to their full fighting strength. Every possible aid, of a restorative and reconstituent nature, should be enlisted and utilized in this essential "up-building" procedure, including an abundance of fresh, pure air, nutritious and readily digestible food, rest of body and brain and appropriate reconstructive medication. Although some systemic infections, such as malarial poisoning, are more essentially destructive to the erythrocytes than others, some form of eligible ferruginous tonic is always indicated in convalescence, whether or not the disorder from which the patient is recovering is medical or surgical in character.

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## DIPHTHERIA\*

By E. J. CLOMENS, M. D.

ABERDEEN, S. D.

Owing to the fact that our community had an epidemic of diphtheria to contend with last winter, I decided to give a general review of the disease and mention some of the complications and sequelæ coming within my practice.

Osler gives the following definition of diphtheria: "A specific infectious disease, characterized by a local fibrinous exudate, usually upon mucous membrane, and by constitutional symptoms due to toxins, produced at the site of the lesion."

The presence of the Klebs-Löffler bacillus is the etiological criterion by which true diphtheria is distinguished from other forms of membranous inflammations. History shows that man has suffered from diphtheria from a very early period. Perhaps no disease has been more written about by ancient authors than diphtheria. In 1807 Napoleon decreed an international congress for the consideration of croup. In 1847 Virchow first pointed out a distinction between croupous and diphtheritic inflammations.

The present era of bacteriological investigation is noted by the important discoveries of Klebs, Löffler, Behring, Frankel, and others. Löffler succeeded in isolating the bacillus in pure culture, and he therefore was able to describe the same minutely. Löffler affirmed the observations of Klebs.

The fact that the bacilli are always found in the guinea-pig at the point of inoculation, and not in the organs, led Löffler to believe that the microorganisms produced a powerful poison which was absorbed and carried through the body.

*The Bacillus.*—Non-motile; does not liquify gelatin; multiplies by fission; is two microns to three microns in length, and .5 to .8 microns broad.

*Striking Features.*—1. Variation in forms.  
2. Irregularity in staining.

3. Does not form spores; grows best on Löffler's blood-serum and glucose bullion.

*Resistance.*—They are very resistant. Cultures have been made from a bit of membrane preserved for five months in a dry cloth.

*Obtaining Cultures from Suspicious Throats.*—The different boards of health furnish different outfits for obtaining cultures. The most common is a small tin box of blood-serum, a sterile test-tube containing a sterile swab, a small wooden tongue-depressor, and a bit of adhesive plaster, with the following directions: "Have the patient in the best light obtainable. Remove the rubber band from the box and loosen the cover. Take a sterile swab and with the aid of the tongue-depressor apply the swab to the false membrane. Inoculate the blood-serum, being careful not to break the surface. Immediately have the swab and tongue-depressor destroyed

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, September 2-4, 1908.



by burning. It is absolutely necessary to protect one's clothing and hair by the use of a sheet and towel, if not by an apron and a cap, while taking a culture, as the patient is very apt to gag and cough. After inoculating the blood-serum, the same may be strapped in the patient's axilla for incubation. The next time the physician sees the patient he can examine the culture-media; if there is any growth which looks suspicious, and the throat still looks suspicious, it is easy to take the culture and stain the same."

The diphtheria bacillus is one of a very few bacilli that will grow in ten to twelve hours at the body temperature, hence if a person finds a culture of grayish-white colonies at the end of twelve hours, and after staining them with Löffler's alkaline methylene-blue for five minutes, he obtains a slide containing bacilli, he can be quite certain that the case in question is diphtheria.

*Contagion.*—Diphtheria is undoubtedly carried by clothing, etc. One must be very careful to avoid the nasal discharges. Park gives the three following modes of contagion:

1. From the membranous exudate or discharges from diphtheria patients.
2. From the secretions of the nose and throat of convalescent cases of diphtheria, in which the virulent bacilli persist.
3. From the throats of healthy individuals who have acquired the bacilli from being in contact with others having virulent germs on their person or clothing. In such cases the bacilli may sometimes live and develop for days or weeks in the throat without causing any lesion.

*Predisposing Causes.*—Persons with tonsillar and throat trouble are supposed to be very susceptible. Some families are more susceptible than others. It is stated that upon post-mortem examination 10 per cent of the diphtheritic cases are tubercular.

*Age.*—Very rare in early infancy and old age; most common between two and fourteen years; more fatal from two to five years.

*Sex.*—There is no distinction.

*Season.*—Spring, late autumn, winter. Epidemics of influenza and measles in northern climates are often accompanied by diphtheria.

*Social Condition.*—No special predisposition, except the poor are crowded together, hence are exposed more.

*Immunization.*—According to Ehrlich's theory, the contaminating toxin operates by over-

coming the natural antitoxin; you immunize the patient. The present method of injecting immunizing doses of antitoxin is tending to stamp out the disease.

*Symptoms.*—Like all contagious disease varying in intensity, this disease varies from the mildest kind of tonsillar trouble to a very grave form of primary blood-poisoning, which may destroy life in twenty-four hours. The outset is usually insidious and painless. There may be slight rigor, followed by fever, with headache and loss of appetite, with pallor of face and languid expression and mental heaviness. Tongue, broad, flabby, yellow fur. Bowels are apt to be constipated. Later, there is stiffness of neck and tenderness under the angle of the jaw, with slight sore-throat; may be painful deglutition; may be pain in ear, and aching limbs. Marked prostration is very noticeable with the small physical findings. The pulse soon becomes compressible, 110 to 115 per minute, and is apt to become very slow if toxemia is great. Urine, scanty, high-colored, very apt to contain albumin. The knee-jerks are sometimes absent as early as the first day.

*Local Symptoms.*—They are generally associated with the throat.

*Inspection.*—A local redness of any part of a tonsil or uvula at the very onset should be looked upon with suspicion, if the disease prevails. This local spot soon enlarges, and the tonsil becomes red and swollen, more or less covered with a film with a glazed appearance, soon followed by a dirty-white, grayish membrane. In severe cases more or less ulcerated patches of membrane are coughed up, and at this time the breath becomes very offensive. The lymphatics of the neck enlarge and become tender. Generally there is a discharge from the nose, which may be very irritating and may be very offensive in odor. Extension to the larynx is indicated by hoarseness or loss of voice and croupy cough, with difficult and noisy breathing.

*Duration.*—From two to fourteen days. Complications and sequelæ may prolong the duration. Relapses are not uncommon.

*Complications.*—Are catarrhal pneumonia, bronchitis, nephritis, focal necrosis of the liver and kidneys.

*Sequelæ.*—Are anemia, paralysis, pharyngeal paralysis, cardiac paralysis, multiplexneuritis.

*Differential Diagnosis.*—From pharyngitis by the membrane; from follicular tonsillitis by the

projecting mouths of the follicles containing a creamy white exudate. Later, the exudate may cover the entire surface of each tonsil and be difficult to distinguish from a false membrane. The two most distinctive points are, (1) the exudate of follicular tonsillitis is easily removed without causing bleeding, while the false membrane of diphtheria adheres closely and leaves a bleeding surface; (2) an inflammatory raised border at the junction of the patch points toward diphtheria. In follicular tonsillitis there is no appearance of a membrane upon the soft palate and pharynx, as so often occurs in diphtheria.

*From Scarlet Fever.*—The onset of scarlet fever is sometimes very hard to distinguish from diphtheria, especially if both are prevailing at the same time. But by being careful and guarded it only takes a few hours to decide.

*Prognosis.*—Grave without antitoxin. The younger the patient, the greater the danger, and the worse the weather, the greater the danger. With antitoxin treatment the death-rate is from 8 to 10 per cent. With antitoxin injected the first to the third day the death-rate is 4.6 per cent; with antitoxin injected after the fourth day it is 27 per cent.

*Prophylaxis.*—Strict quarantine of patients and convalescents. Strict disinfection and sterilization, followed by thorough fumigation. As an illustration of the prophylaxis obtained from antitoxin and the reduction of mortality, I will give the following, obtained from the article of Joseph D. Craig, the statistics being received from the "Department of Health," City of Albany, N. Y.:

In 1901 there were 632 cases reported. Antitoxin was used 516 times, and was not used 116 times. The number of deaths was 45.

In 1902 there were 356 cases reported. Antitoxin was used 297 times, and was not used 59 times. The number of deaths was 25.

In 1903 there were 194 cases reported. Antitoxin was used 167 times, and was not used 27 times. The number of deaths was 18.

In 1904 there were 249 cases reported, and the number of deaths was 15.

In 1905 there were 131 cases reported, and the number of deaths was 10.

In 1906 there were 294 cases reported, and the number of deaths was 15.

In 1907 there were 422 cases reported, and the number of deaths was 44.

Total number of cases in 1901, 632, compared with 422 in 1907.

Antitoxin was not used in 116 cases in 1901, while in 1907 it was not used in only 24 cases.

This report was since antitoxin has been very universally used. I was unable to obtain any reliable statistics before antitoxin days.

*Antitoxin.*—Behring discovered that blood of animals rendered immune to diphtheria by inoculation, first with attenuated and then with virulent organisms, contained a neutralizing substance capable of saving a non-protected animal after being inoculated with a fatal dose.

*Antitoxin Unit.*—A unit of antitoxin was at first considered a c.cm. of antitoxin of such strength as to save a guinea-pig weighing 500 gm. after being inoculated with ten times the fatal dose of the toxin. As this made a great bulk of serum, in order to inject very many units the different manufacturers began putting out concentrated serum under different names. So now we consider a unit enough antitoxin to save a 500 gm. guinea-pig, inoculated with ten times the fatal dose, with no reference to quantity.

The antitoxin serum is obtained mostly from the horse, as the horse rapidly produces antitoxin within its system.

It has been proven that antitoxin protects the horse, hence by injecting a large dose of antitoxin the day before starting the toxin, you can inject a much larger dose of toxin to start with. The toxin is repeated time after time until the horse can be injected with enormous doses, at which time as large an amount of blood as the horse can lose is drawn from the jugular vein. After letting the blood coagulate, the serum is obtained, which is tested as to strength and put on the market.

#### *Treatment of Diphtheria.*—

Indications:

- 1st. To overcome toxemia.
- 2d. Support the strength.
- 3d. Support the action of the heart.
- 4th. Counteract the anemia.
- 5th. Assist elimination.
- 6th. Guard against complications.
- 7th. Guard against sequelæ.
- 8th. Build the patient up.

1. This is one of the few diseases in which a physician can meet the first indication half way and can master the situation in the large percentage of cases by antitoxin, by remembering the disease is worse than the cure, as no

harm can be done if ordinary surgical cleanliness is observed. The sequela of antitoxin is an urticaria, while of diphtheria it is post-paralysis, hence it is better to give a few units more than necessary than to give one less than necessary.

2. Support the strength by giving concentrated, prepared, pre-digested food. If the patient is weak, feed him per rectum. If he has paralysis of the throat muscles, feed him by tube. There is great danger in letting a patient try to swallow when everything returns through the nose, for he is apt to inhale and get an aspiration-pneumonia.

3. Support the heart's action. Use strychnine and plenty of it to get effect.

4. Counteract anemia by giving iron.

5. Assist elimination by keeping the kidneys active. Be careful not to use stimulating diuretics, as the patient's kidneys are inflamed if the urine contains albumin; use plenty of water with salines. Keep the bowels very free, and it is best to keep the bowels loose; patient's weakness due to toxemia, keeping the bowels loose tends to eliminate the toxins.

#### DISCUSSION

Dr. H. J. Koobs (Scotland): In establishing a diagnosis of diphtheria (or, I had better say, in determining what is the cause of a sore throat) we sometimes have difficulty. It is not always easy to say it is this or that, and I am reminded of the fact that in making a differential diagnosis we must bear in mind that we may have more than one trouble existing. We may have a complication, or, rather, a combination, of diseases present. I am forcibly reminded in this connection of an instance which I had in my practice a few years ago. I was called to see a little girl about six years old who presented the typical and characteristic findings of scarlet fever, sore throat, glandular enlargement, high temperature, and on the second day the typical eruption. I thought of nothing else except its being a plain case of scarlet fever. The case ran a very malignant course, however, and the little girl promptly died about the second or third day after I saw her. Before she died I noticed every mucous opening of the body had a peculiar grayish exudate that reminded me of diphtheria, and the thought then came to me that I might also have diphtheria, though I was sure I had scarlet fever. There was no question in my mind that this was the case after my subsequent experience.

About the time this one died a little sister took sick in a similar way. I was then on my guard and immediately made a direct smear from her throat, but could not determine anything from it as there was such a mixed flora of bacteria. There was nothing typical. There were far more cocci than bacilli, and they were not typical of any particular disease. Unfortunately, I had no culture-media with which to make a bacteriological examination. In small towns it is difficult to

keep those things, as you know. From the symptoms I made up my mind that I had to deal with both scarlet fever and diphtheria, a combination of the two diseases, and I lost no time in injecting the patient with antitoxin. I gave her 5,000 units, and almost immediately she began to improve. She ran practically a typical course of scarlet fever, but I got rid of the diphtheria, and am satisfied that I had in both cases a combination of the two diseases. We must bear in mind, therefore, that we may have two or more diseases together.

Dr. H. M. Freeburg (Watertown): I think Dr. Clomens is to be commended for his giving and his advocating of giving such good and heroic doses of antitoxin. I am sure we all have met a condition prevalent among the laity—I refer to the fear of bad results from the use of antitoxin, and even to the extent that they would refuse to allow the doctor to give antitoxin. I believe that we as physicians are the ones who must overcome that mistake, and the ignorance on the part of the laity in regard to the results of antitoxin; and about the only way we can do this in some of these cases is to refuse to treat the case at all unless they allow us to use antitoxin. I have done this in two or three instances, but instead of their continuing to not allow the use of antitoxin, they reconsidered and allowed me to use as much as I thought best.

There is one result of diphtheria—I refer to the paralysis—that I wish might be discussed here, and that is, as to what extent this paralysis will clear up. In my experience the cases that I have seen have all ultimately entirely recovered, aside from one or two cases where the paralysis was fatal at the very beginning, and I am interested to know the experience of other physicians along this particular line.

Dr. W. A. Kriesel (Milbank): With reference to taking swabs from a diphtheritic throat: I concur with the doctor who has just spoken. We should always remove the old, dirty-looking membrane, which is made up of dead epithelial cells, and which, if removed, will be found swarming with bacilli underneath. We should take a swab from every throat that looks at all suspicious, and make a microscopical examination, in order to be sure of our diagnosis.

Dr. Clomens stated in his paper that these patients should be fed with a stomach-tube. This seems to me a dangerous method, as forcing a stomach-tube down a throat that is inflamed and edematous, and bleeding from the slightest manipulation, means a breaking down of nature's barriers and greater absorption of diphtheria toxins. The patient should be put to bed and kept as quiet as possible, and his strength kept up by feeding often with highly nourishing food.

Give antitoxin early, promptly, fearlessly, and repeat and double the dose if necessary in three or four hours. I have given 90,000 units in a case of laryngeal diphtheria, in a child one year old, where two older physicians who did not believe in antitoxin gave an absolute fatal prognosis; and the patient recovered with no bad results.

In most of these cases we find a marked odor to the membrane and breath of the patient. This is due to a mixed infection, and the more mixed the more odor.

In conclusion, I wish to say that when I call to see a case of throat trouble that looks suspicious and have no microscope, I give antitoxin. It is safer, and



no harm has been done, even should the case not be diphtheria.

Dr. B. A. Bobb (Mitchell): There is one point, I believe, that was not brought out, or, at least, not made clear. It is in regard to making a smear from the throat for the microscopical examination, or for making a culture. In obtaining the smear from the throat, when there is a large amount of membrane present, remember to take the smear from near the edges of the growing membrane, as that is the place where the bacilli swarm, and one is very much more certain to obtain them there than in making a wipe over the smooth surface of the membrane.

Dr. E. W. Meis (Sioux City, Iowa): As to the positive diagnosis of diphtheria: I do not believe that a smear taken from the exudate of the tonsils or pharynx is sufficient in all cases. A much better way and a much safer way is to make a blood-serum culture, and after it has been in an incubator for six or eight hours examine the growth, both with the naked eye and microscopically. The majority of physicians are not able to distinguish between pseudobacilli and the true diphtheria bacilli, and for that reason the slide made from a smear taken from the exudate of the nasopharynx and tonsils is not sufficient evidence that diphtheria does or does not exist.

As to mixed infection that exists in all cases of diphtheria as well as in pseudodiphtheria: We do not find the Klebs-Loeffler bacillus present in pseudodiphtheria, while in true diphtheria we do.

There is one point I wish to emphasize, and that is that more care should be taken in making an early diagnosis. Diphtheria is a disease that should have been stamped out a long time ago, and the only reason that it still exists is because a good many patients are allowed to run through a course of diphtheria without ever having their trouble recognized.

Diphtheria may be so mild that no membrane is present, there being only a hyperemia of the nasopharynx. Under such circumstances it is extremely hard to tell whether the trouble is true diphtheria or not. I know of an instance where two physicians living in the same village quarreled about the first few cases of diphtheria till it became an epidemic, which stretched over an entire county. The early diagnosis is the most important part in the successful treatment and stamping out of diphtheria.

Dr. D. E. Arnold (Aberdeen): I want to emphasize a point made before, namely, to give plenty of antitoxin. I had a recent epidemic in our town, and I had some cases I knew did not get along as well as they should have done, because of an insufficient amount of antitoxin. I have never seen a patient yet given too much antitoxin. The only ill effect I have ever seen is that we sometimes got quite an eruption of hives, but that is a minor matter. It is very inconvenient for a little while, but does not last long. Until the last year or two I had not used enough antitoxin at times. There was considerable prejudice against it on the part of the laity and considerable hesitancy on the part of a great many of the profession in giving large doses of it, but since we have been giving large doses—I mean an initial dose of five, six, seven, or eight thousand units, we find our cases do not last as long and we do not have nearly as much paralysis following. I think that point should be insisted upon—what we usually call enormous doses of antitoxin.

The Essayist: In regard to post-diphtheritic paralysis: The diphtheritic paralysis is due to the effect of the toxin upon the nervous system. Antitoxin has no effect upon the paralysis, except that it neutralizes the poison in the system.

In regard to the prognosis of diphtheritic paralysis: It is due to the cutting off of the nerve filaments; in other words, where you have a paralysis of the lower extremities the prognosis is good as to complete recovery without knee-jerks. If you have increased knee-jerks the prognosis is decidedly bad.

In regard to obtaining cultures, I am very glad Dr. Bobb brought out the point of obtaining the culture from the fresh membranes. There is another point in regard to preserving blood-serum: I found it was very hard to preserve blood-serum any length of time, because it dried up. By corking a tube and inserting the tube in a jar of strong antiseptic solution, one can preserve blood-serum for a year without any evaporation.

In regard to feeding by stomach tube: I believe it is very important to feed these patients. If you give them large doses of antitoxin they will begin to assimilate right away. By using a tube through the nose you pass the tube without disturbing the patient, which is better than to have him swallow over a membrane, and then swallow the membrane, etc.

## CONSERVATISM IN TRAUMATIC SURGERY\*

### IN THREE PARTS—PART II

BY WALTER COURTNEY, M. D.

Chief Surgeon of the Eastern Division of the Northern Pacific Railway

BRAINERD, MINN.

*Fractures.*—I cannot think of any line of work coming to the general practitioner, which is worthy of more consideration than the subject of fractures. The treatment of these injuries

has probably originated more malpractice suits than any other line of medical or surgical work.

I shall not at this time attempt a discussion of the truly scientific side of the subject, nor shall I say anything about the great variety of forms in which fractures occur. Your text-books will

\*Read before the Medical Society of the University of Michigan, May, 1908.

inform you about gunshot, pathologic, intra-uterine, and other unusual fractures. Similarly, if you have forgotten, they will refresh your knowledge in regard to the processes of healing and the remarkable histologic changes occurring locally. There is no need for me to discuss these things. Instead, I shall try to deal with the subject in a general and practical way.

Compared with our forefathers we have but little excuse for not securing much better results than we often do, for anesthetics, the x-ray, asepsis, and antisepsis are, if properly used, valuable present-day aids in this line of work.

The best results are obtained in the treatment of fractures of all kinds, by those endowed with good judgment, resource, good operative technic, mechanical ability, and an intelligent mind that does not hesitate to depart from regular lines, and is capable of hewing out new ones when the peculiarity of the case demands it. I yield to no one in my admiration of the surgeon who can secure the best results in all classes of fractures, and believe him to be the peer of any surgeon, in whatever line of work he may be engaged.

An absolute diagnosis, of course, is necessary to the proper treatment of any case, but nowhere more so than in fractures. Anesthetics should be freely used whenever necessary to secure a satisfactory diagnosis. I, for one, would refuse to treat any case that would not take an anesthetic which I believed to be necessary and might be administered with safety.

The x-ray should be used whenever available, particularly the radiograph. It will not always prove a reliable measure, however, nor take the place of other diagnostic means. To secure the best results, an expert is really necessary. The fluoroscope will often give valuable information, although it will frequently prove disappointing.

*Treatment.*—Simplicity in treatment, when directed by good judgment and watchful care, will give the most satisfactory results. Eternal vigilance is the price of success in this work; therefore, all fractures should be examined frequently and to a sufficient extent to satisfy one's self of their proper condition and progress. I have always advised my medical friends to refuse to treat, or assume any responsibility in connection with, serious fracture cases located at a point where frequent visits and examinations could not be made, or the patient and his friends trusted to carry out instructions, particularly in regard to non-interference. Let such cases come

to your town or hospital, or secure another surgeon.

As regards the means of treatment, I would say in reference to appliances that these in most instances may be quite simple. Purchase but few of the numerous patent splints and appliances, and only those recommended to your notice by one who has competently used them. With an adequate supply of roller bandages, adhesive plaster, plaster-of-Paris bandages, wooden splints, sheet wadding, mill-board, or other material that can be readily molded to a desired shape, the surgeon should be able to meet the requirements in most of the cases to which he may be called.

I would utter a word of caution, and that is never to apply a bandage next to the skin before putting on any other appliance. It may retard swelling and obstruct the circulation to such an extent as to cause gangrene of the limb.

If a fracture has been produced by some heavy moving body, like a railway train in motion, or in any other manner, except where it is positively known that the injuring force was confined to the fractured limb, the patient should be undressed and every bone and joint examined for further injuries. *Make this an unvarying rule.* Two cases in point have recently come to my notice: one where a fractured leg was treated and a broken arm overlooked until discovered by another surgeon; the other, a case of fracture of both legs, and early discovery of only one of the fractures.

There is an old rule that will bear repeating and which should never be forgotten: In fractures of the long bones, immobilize the joints above and below.

A good deal has been said and written about the *ambulatory treatment* of fractures of the lower extremities. When a fracture of the leg occurs, unless it is badly complicated, it can usually be put up in a plaster cast within a short time, thus permitting the patient to go freely about on crutches. This should be liberty enough, and the results desired are more certainly obtained in this way than they would be by ambulatory treatment. If a person should be unfortunate enough to sustain a fracture of the femur he ought to be very willing to go to bed and remain there as long as necessary to secure a good result. There may be stages, in some cases, where ambulatory treatment might be desirable. I will frankly say that up to the present time it has never found much favor in our practice. We have usually found it either inefficient



or too painful to be borne. This, briefly, will answer at this time for a general consideration of closed fractures.

In open fractures, and those presenting complications which make it necessary to convert them from closed into open ones, the manner of treatment must necessarily be quite different. If the fracture be an open one, it affords, under careful antisepsis, an excellent opportunity for examination and placing the fragments in the best apposition possible.

Of late years we have learned that it is of great advantage to treat certain cases of closed fractures by converting them into open ones. In some cases accurate approximation of the fragments cannot be secured because of intervening tissues. In others, owing to great comminution of the bones and displacement of the several fragments, union in all probability will not take place. There are still others where the injuries to the soft parts are so extensive that, to prevent necrosis from internal pressure, incision and drainage must be resorted to. In any such case as the above, the proper treatment is to convert the fracture into an open one, under strict asepsis, and deal with it as the conditions require.

There are certain fractures, like those of the patella, where the pathologic conditions following the trauma make it advisable to open them, in most instances. In these fractures, and in others where the soft parts have been extensively injured, it is often the part of wisdom to postpone operative procedures, if possible, until the local conditions have reasonably approached the normal. Danger from infection will then be greatly minimized, as the tissues will have regained more of their natural resistance.

In open fractures of a severe type, one may often be at a loss to decide whether to amputate or make an attempt to save the limb. One of the first things to be determined is whether the blood circulation is intact or not. If it is we may take courage to go on and investigate further, with the hope of saving the member. Though the bone be comminuted to quite an extent, usually, the intermediate fragments should be removed only when completely separated from the periosteum, or any other possible source of blood-supply. Nerve trunks are rarely divided; when thus injured they can usually be sutured. Badly injured muscles may slough, and should deformity result, plastic operations, for muscle transplantation and tenor-

rhaphy, may end in the triumph of a useful limb.

In suturing and otherwise fastening bone fragments together, catgut is usually all that is required. Non-absorbable material is useless, in most cases, at the end of two or three weeks, and properly prepared catgut can be depended upon to last that long. Temporary support of this kind is generally all that we need, for the contraction of the muscles and the return of the surrounding soft parts to normal, will afford the necessary support, supplemented, of course, by proper external appliances.

To succeed in this class of work every precaution should be taken for doing it in an aseptic manner. If asepsis cannot be accomplished, then the most careful, painstaking antisepsis should be employed and drainage should be perfect. In operating, if a periosteal bridge exists between the fragments, it should be preserved if possible, as it will facilitate union. It is wonderful and very gratifying, indeed, to observe the useful and even perfect limbs that are often secured by good judgment, ingenuity, skill, and patience on the part of the surgeon, where at the outset amputation seemed the only probability in the case. Amputation should never be resorted to, except when it cannot possibly be avoided, as in the complete destruction or general necrosis of the limb, or, rarely, in a case of general septicemia, where such a step may be the only alternative in attempting to save the patient's life. Almost any kind of a hand or foot that can be saved is of more value to the individual than a factoryful of artificial ones.

#### COMPLICATIONS

Of these, I shall mention only the most serious.

*Fat Embolism.*—Fortunately, this is of rare occurrence. It generally proves fatal. Two cases, both fatal, have occurred in my practice.

*Thrombosis.*—This may, and occasionally does, occur as the result of injury to the blood-vessels. Gangrene follows in consequence and amputation is inevitable.

*Malignant Edema.*—This almost invariably fatal complication is usually seen in connection with acute gangrenous septicemia, and the subcutaneous emphysema present is commonly due to the gas-producing vibrión septique (Pasteur), or the bacillus capsulatus aërogenes (Welch). There are other less common infections said to be capable of producing gas, e. g., the bacillus of malignant edema, No. 2 (Novy). I once had a case of malignant edema, occurring in a



fracture near the hip-joint, with extensive laceration of the surrounding soft parts, but without general gangrene of the limb. It proved fatal.

*Stiffness of Joints and Ankylosis.*—Stiffness is not an uncommon occurrence as the result of immobilizing the joints in the treatment of fractures. In cases with uninjured joints in children and young subjects, passive movements, massage, and the application of dry hot air will usually be sufficient, leaving the rest to the intelligent coöperation of the patient. In older subjects with rheumatic tendencies, greater efforts are often required to secure full use of the joints. Strict attention should be called to the necessity of watchful care in the case of phalangeal and metacarpophalangeal joints. Great stiffness, even ankylosis, occurs in these joints when immobilized for a comparatively short time, and the condition is frequently difficult to overcome. Owing to the fragility of the phalangeal bones they may be easily broken if too much force is used in making passive movements. Whenever necessary to immobilize the fingers, it is best to place them in a flexed position, if possible.

A fracture in the neighborhood of a joint may cause traumatic arthritis, resulting in a more or less troublesome ankylosis. Fractures involving the articulating surfaces and in which reduction of the fragments is incomplete, will usually result in ankylosis of the joint, so complete that only operation can overcome it. Fear of ankylosis was, and to some extent continues to be, the bugbear of the surgeon. Much of his anxiety is wholly unnecessary, if he treats his case with good judgment, and consequently does not resort to passive movements too early and too often. I will cite a case in point: Six months after the injury I was called upon to treat an unreduced fracture of the head of the tibia, above the tubercle. Absolutely the only way the fragments could be held in apposition was by flexing the leg at a right angle with the thigh. The leg was constantly kept in this position for more than four months, when, union having undoubtedly taken place, the limb was completely extended, under an anesthetic, and a fully functioning joint was secured in a short time. The result in every way was all that could be desired.

*Delayed Union.*—This is a condition that not infrequently occurs. The causes are given as local and general. I believe, however, local conditions are the most frequent factors. Delayed

union from local causes may be due to imperfect apposition of the fragments; interposing soft tissues, as periosteum and muscle; imperfect retention by the splints; failure to immobilize the joints on either side of the fracture, and, sometimes, the disobedient conduct of the patient. The systemic causes given by various authorities on fractures are numerous but unreliable, as we frequently observe prompt union occurring in greatly debilitated persons, syphilitic individuals, and nursing and pregnant women, whose physical condition is considered the most prominent general cause of delayed union.

The ultimate pathology of delayed union has yet to be worked out. Why an uncomplicated fracture of the tibia occurring in a healthy young man who received accurate treatment, without operation, should require ten months to unite firmly, is a puzzling and interesting question. I have seen such a case. Again, in the case of a leg or forearm, where both bones have been fractured, it is equally interesting and puzzling to observe the occurrence of prompt union in one bone and temporary failure in the other.

*Non-union.*—Ultimate non-union is, or should be, a very uncommon occurrence in these days of aseptic surgery. In most of the cases the cause is entirely local, and operative, instead of purely mechanical, treatment would make it a rare event. The cause may be mal-position of the fragments, or interposition of dense tissue, such as tendon or bone; while fracture through the nutrient canal with rupture of the artery, is also mentioned. Personally, thus far I have had but one case of non-union occurring in my own practice.

The kinds of fractures that occur most frequently must vary with the class of patients treated and their occupation. There are many other things that may be factors also, but these are the principal ones. For example, we may take the employes of a railway company; the varieties frequently occurring among them might be observed less frequently in a large city hospital caring for patients of both sexes, all ages, various conditions in life, and of manifold occupations.

Desiring to know the frequency of the different forms of fracture occurring in our own railway work, I had a table made of the last 2,513 cases treated in our hospitals. It may have some interest for you. The tabulation, while not absolutely accurate, is approximately so, and is as follows:

TABLE OF FRACTURED BONES

Skull .....	94	Barton's .....	2
Malar .....	7	Carpal .....	12
Nasal .....	21	Metacarpal .....	82
Sup. maxillary .....	6	Phalanges .....	231
Inf. maxillary .....	32	Pelvis .....	27
Zygoma .....	1	Ilium .....	7
Teeth .....	1	Innominate .....	2
Clavicle .....	123	Coccyx .....	3
Scapula .....	25	Neck of femur.....	9
Sternum .....	3	Femur .....	117
Vertebrae .....	15	Patella .....	30
Ribs .....	248	Tibia .....	336
Glenoid surface, neck of scapula.....	1	Fibula .....	314
Anatomical neck of humerus.....	2	Tibia and fibula combined.....	241
Humerus .....	76	Pott's .....	74
Elbow .....	6	Astragalus .....	4
Olecranon .....	12	Os calcis .....	4
Radius .....	107	Tarsal .....	17
Ulna .....	92	Metatarsal .....	88
Colles' .....	41	Total .....	2,513

(To be continued.)

## POST-OPERATIVE TREATMENT\*

BY G. R. CURRAN, M. D.

MANKOTA, MINN.

As one visits different clinics and hospitals he is at once struck with the different management of cases, and he may be more surprised to find that the end-results in the hands of different men are equally good. He will find patients thoroughly purged before and right after an operation; and others where laxatives are not given at all, leaving natural peristalsis to take place; he will find surgeons who give opium for pain, and others who never use it; eserine, spartein, and stimulants are loudly recommended by some, and equally tabooed by others; he will find some patients sitting up in bed, while others will be kept for the same trouble in Clark's position. The patient is gotten up in twenty-four or forty-eight hours after an hysterectomy in some hospitals, and kept in bed four weeks for the same condition in others. The patient is liberally fed by some and starved by others, and given hot or cold water at once, or not a drop of water for twenty-four hours. He is bandaged with adhesive straps, collodion dressing, or large cotton packs, while other operators get equally

good results by the open treatment of the wound with nothing over the incision after the first few hours.

To see and know the end-results of all these various treatments should at least leave one in a receptive frame of mind, keeping him from being very dogmatic in using any line of treatment.

The fate of the patient, it has been said, is sealed when the patient is taken from the operating-table. The skill of the operator is now at an end, and he must leave the case to nature. While this is probably true in the great majority of cases, still the manner of handling a laparotomy has a great deal to do with the comfort and well-being of the patient.

One of the first questions to be answered in post-operative cases is, Is there shock, and, if so, from what cause? Shock from manipulation of the intestine and irritation of the nerve-endings is best handled by heat applied externally, elevation of the foot of the bed, hypodermic injection of morphine and atropin, a tight abdominal binder to constrict the pelvic vessels, and normal saline solutions per rectum. If the

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

shock is from hemorrhage, hypodermoclysis or transfusion of normal salt solution or blood may be required. The quantity injected of the two latter should approximate the amount of blood lost.

By the work of Crile, Carrell, and others it has been proven that if the tunica intima of the vein and artery be correctly opposed there is no danger of blood-clotting. In blood-transfusion one should see that it is done slowly, under local anesthesia, in order not to distend the right side of the heart. It is claimed that the donor recovers from the loss of blood in about five days.

You may notice that we have said nothing about the use of strychnine, digitalis, or alcohol, at this time, but we believe it has been fully proven that their use is harmful, and we have not used them in post-operative treatment for several years.

We have very little trouble with vomiting when ether has been given at the operation by the open method. If we feel that there may be trouble in this direction, it is often well to administer gastric lavage before the patient leaves the operating-table. Gastric lavage and setting the patient up with a back-rest to drain the stomach, will suffice in most cases.

In quite a few clinics in the East they are using oxygen right after the operation, claiming that the recovery from the anesthetic is much quicker and better by this method. While we are prepared to use it and also to give the carbon dioxid and oxygen anesthetic, we hesitate to abandon the much simpler method for the complex when our results are so good by the older method.

There is more danger of pneumonia in operations in the upper abdomen, as it interferes more with chest-inspiration. It is well to encourage the patient to take deep breaths for a day or two after an operation. Dr. Murphy relates a case where the patient died of hypostatic pneumonia just because it hurt him to take deep respirations.

The position of the patient is determined a great deal by the operation. If infection and drainage are present, the Fowler's position with Murphy's method of salt solution will be necessary. Stomach cases do best sitting up. We believe that the patients do best by encouraging them to change their position from side to side themselves after the first few hours.

In giving food we should remember that peristalsis is probably paralyzed for the first few hours, and absorption of food, as well as liquids, is almost nothing during this time, so that food given at this time remains a dead load in the stomach to ferment and help cause acute dilatation.

Harvey Cushing first taught that by keeping the mouth clean and giving sterile food the stomach remains sterile. While we believe that every patient should have his mouth kept thoroughly clean, we must use caution in using a tooth-brush in cases where one has never been used, for violent inflammation of the gums may be thus set up. To prevent parotitis from the congestion and want of use of this gland while the patient has no food to chew, he may be given gum to chew. We do not give any food after a laparotomy for the first forty-eight hours, and then only small doses of albumin water, whey, or gruel. If this is well borne, the diet can be increased the next day and further until in a few days the patient is taking almost everything.

The treatment of abdominal distention is in itself worthy of an entire paper. We see it occurring in cases that have been thoroughly scoured by laxatives for days. Often it does not occur in our emergency cases where the bowels and stomach are loaded.

Kuntz has shown by experiments in lower animals that meteorism follows profound narcosis if continued for any length of time. He believes that the circulation in normal intestines absorbs great quantities of gases. Kader has shown that if a loop of intestine be ligated in two places slight meteorism follows only after a lapse of two or three days, while, on the other hand, if the mesenteric vessels alone be ligated, marked meteorism occurs in a few hours, causing the bowels to become enormously distended. These experiments have been demonstrated by others, so that when we find meteorism taking place we may know that there is some disturbance in the circulation in the involved intestine, and that the intestinal contents have very little to do with it.

The best drugs and the only ones, so far as we know, for this condition are eserine and atropin given in full doses. I have frequently seen gas pains relieved by the use of eserine or atropin. A great deal of prejudice against opium in after-treatment has been handed down to us by the older operators, who laid all their trouble with sepsis and their poor technic to the use of



opium. While there is no doubt that the over-use of this drug is harmful, a dose of morphine or atropin before the operation and a few doses during the first two days can be given with beneficial effects. A few doses of spartein sulphate,  $\frac{1}{2}$  grain at a time until 2 or 3 grains are taken, increase the secretion of the urine.

In an ordinary case where the bowels have been properly unloaded before the operation we leave the intestinal tract entirely alone for twenty-four hours, for, after a general anesthetic, the bowels are paralyzed for this length of time, with perhaps use of the rectal tube to let off any accumulation of gas, when we give a slight enema of soap-suds, or a 1-2-3 mixture, or the molasses and milk mixture which Monroe recommends. These are used once or twice a day for the first three or four days. This keeps the large intestine free from gases, which provides comfort for our patient. After this interval a cathartic is given by the mouth.

Our last question to be considered is, How long shall we keep the patient in bed? Those who advocate the early out-of-bed theory claim that it is our duty to get the patient, who is perhaps the bread-winner, to work as early as possible; that the patient who stays in bed a

week takes another week to recover his blood-pressure; and that a patient in bed for a month takes many months to recover his. This assumes that all our patients are healthy individuals, but such is not the case. Many are shipwrecks, and the hospital is the first harbor into which they have entered for many months.

It is good for some people to have their blood-pressure lowered in order to keep them from being keyed up to the tension on which they are going. It is probable that no small share of the success of operations in nephritis is due to this lowered blood-pressure which the enforced confinement causes.

The aged do not bear confinement in bed. All are agreed that the prostatic case should get up on the next day or, at least, on the second day, and should not be confined to the bed with preparatory treatment. All head and neck cases can be gotten out of bed the next day.

And, lastly, there should be no complications in our treatment to confuse the ordinary nurse and to keep the patient from resting. Give nature a chance. A fussy doctor who tries to do too much for the patient lessens the chances of a critical case.

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## ACUTE GANGRENOUS APPENDICITIS\*

BY CARL J. HOLMAN, M. D.

MANKATO, MINN.

I wish to present briefly a few remarks upon the insidious onset of gangrenous appendicitis—"the green groin of Price,"—and in doing so present a few illustrative cases.

The points which I wish to emphasize are, that it is possible that the neglected and unrecognized cases with gangrene and abscess-formation may pass through the critical period and make a recovery, with the drainage of the abscess; but this unscientific method of securing results must be condemned in the light of the teachings of the epoch-making paper of Fitz and the men who have worked along the lines marked out by him many years ago.

As a matter of economics, that patient is much more fortunate who has for his attendant the physician who will recognize by the signs and

symptoms the condition which will sooner or later require surgical intervention.

I plead for the unfortunate 20 per cent who should have been given the advantages of the early operation. Furthermore, if anyone who is within the hearing of my voice and who is called upon to attend a patient with an acute abdominal condition, can be aided in recognizing by the signs and symptoms the presence of a gangrenous infective appendicitis, I shall feel that this paper has not been read in vain.

The operative technic in appendicitis has become so perfect that the mortality which now exists can usually be accounted for in no other way than faulty diagnosis.

We often see the late results of neglected diagnosis in the late appendicitis abscess. Cases could be recorded *ad infinitum*, but to be brief I will enumerate only a few.

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\*Read before the Sioux Valley Medical Society at Sioux City, Iowa, January 17, 1909.

We have seen the unfortunate results attendant upon the so-called late operation and the happy results of the early and timely operation and beautiful recovery, though a secondary operation for the removal of the appendix or the repair of a post-operative hernia has been necessary.

"We all recall how reluctantly the advocates of the soothing opium treatment vacated their position; some of them are still with us; likewise the nine-lived procrastinator still standing out against every convincing presentation of pathological demonstration." (Murphy.)

No physician or surgeon demands operation in every case of appendicitis. The only way we can intelligently advise our patients is by studying the signs and symptoms, not only before and after, but at the time of the operation.

If we have to deal with acute infective or gangrenous appendicitis, certainly the chances for the recovery of our patient are greater by following the early operative method of Fowler, Deaver, Murphy, and others, than to grope in the dark with stomach-washing, rectal alimentation, predigested foods, *tactus eruditus*, etc.

The mortality in acute infective or gangrenous appendicitis is dependent upon the presence of pus and is an admission of faulty judgment on the part of the observer or an unwillingness on the part of the patient or his friends to accept the advice of the attendant in the safe early operation.

Retroperitoneal infections take place by three different routes: (1) by direct communication of infection from the appendix into the cellular tissue; (2) by extension of infection through the meso-appendix to the retrocecal tissues; (3) by the lymphatics.

Gangrene of the appendix may be complete by the compression of its base by a foreign body, by infection of its wall, or by torsion. It may be with or without perforation.

I firmly believe that in every case, if it were carefully and closely observed, the signs and symptoms would be found to occur in the order as formulated by Murphy. There are some, however, who would disarrange his sequence of events. First, pain in the abdomen. The pain may become less severe or subside as gangrene progresses. Second, nausea or vomiting usually two or three hours after the onset of the pain, though I recall two very severe gangrenous appendices where no history of vomiting could be elicited. Third, abdominal sensitiveness, most marked usually in the region of the appendix. Fourth, elevation of temperature, though I have

seen several very bad gangrenous conditions of the appendix where no temperature could be made out, yet it is possible it had been present. Fifth, leucocytosis. Frequent urination has often been noted and a few cases of urinary retention.

In a review of the cases it would seem that acute gangrenous appendicitis due to pressure from a foreign body is not as frequent in children as in adults, due, undoubtedly, to the fact that the cecal end of the appendix in children, lying high up, is funnel-shaped, allowing for foreign bodies entering and escaping more readily. However, we have seen several cases of this kind in children and one which was so late that it died of co-existing peritonitis.

The diagnosis in children is apt to be difficult, and the symptomatology is usually inaccurate and requires a great deal of courage on the part of the surgeon. Intussusception is common in children, rarely, however, giving a rise in temperature as an early symptom.

Twice have I seen pneumonia diagnosed as appendicitis, operated on, and recovered; and once I have seen a probable appendicitis diagnosed pneumonia, with fatal termination.

No plea for early operation could be stronger than that given by Murphy:

"The danger from operative intervention in the early stage is scarcely more than that of an exploratory laparotomy. The time required for convalescence is not more than two and a half to three weeks. Drainage is, as a rule, not indicated and hernia improbable. Unnecessary operations as a result of error in diagnosis would be very limited.

"The patient would, therefore, be relieved of his appendicitis without hazard, without prolonged illness, without danger of unpleasant sequelæ, without the possibility of recurrence, by the only timely operation.

"To me there appears to be no excuse, no explanation, no logical process, no justifying hope that relieves the patient of the danger of this disease.

"Procrastination, under these circumstances, I do not interpret as a manifestation of knowledge, experience, judgment, or true conservatism, but a stigma of their opposites. There should therefore be considered the period of election, that is, within the first 48 hours of the onset of the acute attack."

The modern physician (since our knowledge of immunity has become known) discarded the use of the ice-bag and other antiphlogistics in the treatment of purulent infections. He is depend-

ent upon bacteriology, and his search for cause is not directed especially to the symptoms of inflammation, but to the cause of the disease,—the bacteria and their toxins.

The ideal surgical therapy is that which will take the scalpel, make an incision, and provide for the removal of foreign germs and their toxins.

What are the positive pertinent points for operation?

1. Severe onset—the attack will be severe.
2. The facial expression typical of a severe abdominal seizure. This will not occur as often in adults as in children in whom the dull, heavy look in the sunken eyes, the drawn features, and the cyanotic lips are so characteristic.
3. The tongue will be furred, but rarely dry unless peritonitis is present.
4. The temperature will rarely exceed  $102^{\circ}$  F. If, after an initial rise it falls and then rises again, an abscess is forming. A falling temperature with an increasing pulse-rate is a grave sign and is an imperative indication for operation; indeed, it is an indication that operation has been delayed over-long. Severe gangrene may be associated with subnormal temperature.
5. A rapid pulse from the start is evidence of a severe attack. If steadily increasing in rapidity it suggests peritonitis.
6. If diarrhea occurs the attack is probably severe.
7. Vomiting at the start is common. If it ceases and recommence, suspect peritonitis.
8. If pain disappears and then recurs, an abscess is forming. If pain suddenly ceases while other signs become more severe, gangrene is present.
9. If acute localized tenderness persists, or returns after a temporary cessation, an abscess is forming. If there is extreme cutaneous hyperesthesia, suspect chest-trouble, especially in children. If there is a general tenderness persisting, suspect general peritonitis.
10. Rigidity of the abdominal walls, if persisting after 24 hours, is evidence of a severe attack.
11. If tumor persists or increases after 48 hours, an abscess is forming.
12. Abdominal distention, if occurring early and not yielding to enemata, is an indication of gangrenous appendicitis with peritonitis, and is an urgent indication of operation.
13. A high leucocytosis from the first is evidence of severe attack.

The operative treatment I would recommend is gas; ether anesthesia, preceded by morphine atropin; short anesthesia, short incision—McBurney preferable; if early, i. e., within 24-36 hours after severe onset, removal of the appendix; if later, just drainage with rubber tube and gauze. With the lead-pipe drain of Morris I have had no experience. Closure with a few stitches—the counter-opening in the lower left groin if necessary, and if needed far beyond the left rectus so as to prevent the formation of adhesions between the small intestines. For after-treatment, Ochsner's starvation plan, although I have been very well pleased with giving water very freely, Murphy's seeping enema, and Fowler's position. If the appendix cannot be removed it can be done 6 to 8 weeks later through an inch and a half incision and a week and a half in bed.

#### CASES

1. Master G. L., aged 11, was taken ill about 48 hours before my visit, which was in consultation with Dr. Davis, then of St. Clair. There had been severe abdominal pain, vomiting, elevation of temperature and pulse.

Upon examination, abdominal rigidity was marked; bad smell to breath; pulse, 110; temperature,  $100^{\circ}$ ; respiration, somewhat accelerated; he had vomited. He was taken to St. Joseph's Hospital where the abdomen was opened, the gangrenous, perforated appendix was removed, and gauze and tube drainage was provided; uneventful recovery, but a hernia developed, which was later repaired.

2. Mr. X., a business-college student, called me one morning about 10 A. M. I found him suffering severe abdominal pain. He had vomited freely during the night. This was his third attack. He knew what the trouble was; had been warned by excellent men not to wait, but to submit to an interval-operation. He has discussed it with me. His pulse was 110, temperature  $101^{\circ}$ , pain in the right side, tenderness on pressure, spasm of right muscle.

I advised the necessity of immediate operation, but his landlord stood sponsor for him, and he warned me not to take him from the premises. His condition became worse, and his father was called from several hundred miles away. During that night another physician was called who instituted the so-called Ochsner treatment for four or five days, when he was removed to his home, where he was operated on and died.

3. Master T., two years old, was seen by the family physician about 4 A. M. He had had colicky pains ever since birth. Had vomited several times; the abdomen was rigid, and enemata had not given relief. Pulse fast, temperature  $102^{\circ}$ , and pain was markedly evident by the distressing groans or grunts from the little fellow.

There was much tenderness on pressure over the abdomen. He was brought to St. Joseph's Hospital where he was operated on about 5 o'clock in the afternoon, and a large club-shaped gangrenous appendix



was removed, tubular and cigarette-wick drainage employed. Convalescence uneventful, patient leaving the hospital in three weeks. Ochsner treatment was applied after the Murphy treatment had been used.

4. Just a few days after this case I saw in consultation with Dr. Macbeth a little fellow, then two years old. I saw him in the evening and obtained the following history: He had been taken sick the night before, now twenty hours; had vomited several times, felt bad, would not eat, complained a great deal; his pulse and temperature were normal; there was much tenderness on pressure at McBurney's point; the right abdomen was tense. The doctor had diagnosed acute gangrenous appendicitis, in which opinion I concurred. The little fellow was taken to St. Joseph's Hospital where an incision was made (the McBurney gridiron) and a large, red, gangrenous appendix was removed, and the abdomen closed without drainage. Uneventful recovery.

5. Mr. B. was brought to me in August, 1906. He was taken sick during the day. He had pain; was suffering a great deal of pain when he arrived. He had vomited; his pulse was not especially fast, about 80; his temperature was 99.5°. There was a great deal of spasm and rigidity of the abdomen. Tenderness on pressure at McBurney's point. A slight incision was made, and a gangrenous appendix was removed. Tubular drainage. Uneventful recovery, and the patient left the hospital in about 16 or 17 days.

6. In August, 1908, R. F. was brought to Immanuel Hospital, where I saw him. He was a strong, well-built, athletic fellow, about 35 years of age. The doctor had been called to see him the night before. He suffered a great deal of pain; vomited; pulse was less than 80; temperature, normal; but on palpation over McBurney's point there was a great deal of pain and tenderness, not so much rigidity of the abdomen, but there was pain low down in the flank. It was decided to operate immediately, and after the incision was made and the fingers passed into the peritoneal cavity, a large pear-shaped mass was felt, which at first made one feel that he might have malignant disease of the cecum to deal with, but upon elevating the mass from the abdomen, it proved to be a large gangrenous appendix, as large as a pear, full of pus and fecal matter. Tubular drainage, partial closure of the wound, uneventful recovery. The patient now has a hernia, but aside from that is well.

7. Master Willie S. was operated on at Rochester two years ago last October for appendiceal abscess. The physicians doing the work advised the father that he should return with the boy in three months to have the appendix removed, but the attending physician told them that the appendix had probably sloughed off and passed away with the abscess and said operation would not be necessary. About two years later, in January, 1908, the young man was brought to me suffering a great deal of pain in the lower abdomen, pulse fast, some temperature, had vomited, and all in all appeared like quite a sick boy. Incision was made, a great amount of pus coming out, tubular drainage; no attempt in finding the appendix. The wound healed in three weeks, and the patient was advised to return and have the appendix removed, which was done nine or ten weeks later. A long appendix imbedded in adhesions was removed. Uneventful recovery.

8. Walter E. was brought to me with a diagnosis of acute appendicitis. He had vomited, had had great deal of pain, and had rigidity of the right abdominal muscles. Fast pulse and some temperature. Upon incision a large amount of pus was removed. No attempt at removing the appendix. Pus discharged freely for about three weeks, when he was allowed to return to his home and advised to return within three or four weeks. He returned, and his appendix was removed. Uneventful recovery.

9. Master Guy C. called me on November 3rd. I learned from him that ten days before he was taken sick with a pain in his intestine. Vomited once and felt bad all over two or three days. He got up and went out to dig potatoes in the field. Came home and felt worse; went to bed and remained four or five days; and finally his father persuaded the boy to have a physician. I saw him with a temperature of 102°, pulse 100, and in the lower right abdomen could be felt a large mass, which I presumed to be an appendiceal abscess. He was removed to Immanuel Hospital where a small incision was made. Appendix could be felt by palpating fingers, but no attempt at removal was made. The wound discharged pus freely for about two weeks when he was sent to his home and advised to return later for the removal of the appendix.

On January 4, 1909, the appendix was removed through a McBurney incision. It was bound down to the parietal peritoneum by adhesions. There was quite free oozing so that we felt justified in leaving a cigarette-wick for drainage. Uneventful convalescence, leaving the hospital in twelve days.

10. That afternoon I was called by the doctor in one of the adjoining towns to come and help him operate for the removal of an appendiceal abscess. I did so the next morning. Upon arrival at the man's home, I found that the patient had been sick for ten days. He was 35 years of age, looked rather pale and thin, had always been well until this time, never had any abdominal trouble before. Ten days prior to my visit he had had some pain in his abdomen and the doctor was called and felt a large bunch in the side. He saw him again Sunday when it seemed to be larger still, and he decided that an operation would be necessary, which was readily consented to. On Wednesday morning the incision was made over the lower portion of the most prominent part of the abscess, and a large amount, perhaps a pint and one-half of bad-smelling pus, came away. The condition of the patient before the operation seemed very good, and the time for the operation was very short. The abscess was opened putting in two tubes. The patient was well that day. At night he rested fairly well. Pulse, 100; temperature, 100°. The next day in the morning he seemed fairly well, although the pulse was somewhat faster, 120 that afternoon. When the doctor called, the patient had a good deal of pain and seemed pretty weak. That evening about 11 o'clock he was having cold perspiration. The patient died about one hour afterwards. No post-mortem was held.

11. In April of 1908, Mr. H. H. was taken with pain, nausea, and vomiting. The usual Christian science method was tried for a few hours, when during the night the pain became so severe that a physician had to be called. He diagnosed appendicitis, probably gangrenous, but the friends and relatives would not con-

sent to operative treatment. Three days later the condition was worse, and an abscess had developed, which was opened in St. Joseph's Hospital. No attempt being made to remove the appendix. He remained there for three weeks. In December, 1908, the appendix was removed by a physician. He is now well.

12. Mr. B. had a typical attack of illness, which two physicians suggested gangrenous appendicitis. An Osteopath had treated the case; the family did not believe in surgeons.

Dr. Curran was called to see him about the ninth or tenth day of illness. He was distended, had all symptoms of general peritonitis, and it seemed as though dissolution could take place at any time. He refused to operate, and the patient died twelve hours later.

Mr. B., a fine specimen of young manhood, about 24 years of age, had had one attack of similar illness about one year before. Was taken on a Friday night with severe pain in abdomen. Usual remedies were employed. The doctor could not be had during the night because of severe storm, could not use telephones. The doctor saw the patient about 11 A. M., Saturday, when he administered a hypodermic of morphin sulphate, grain one-fourth, and left calomel. The doctor was called Saturday night to attend a woman in confinement which proved a tedious labor, and by this was delayed until 4 o'clock in the afternoon to reach the patient. His condition was much worse, and I was asked to see the patient in consultation. Dr. Curran went out with me. If an operation should be deemed necessary it was our plan to do it at the home. On arrival we found that the patient had vomited; the pulse was fast; the abdomen was greatly distended, and there was tenderness on pressure; there had been severe pain. The general expression was bad. It was thought best to remove the patient to the hospital where under ether anesthesia an incision was made in the right groin letting out a large quantity of seropurulent fluid. The bowel and peritoneum were blistered. The gangrenous perforated appendix was removed, and gauze and tubular drainage was used; a very stormy period ensued, resulting in death from obstruction two weeks later.

This case is reported to show the result when operation has been delayed over-long. To my mind the result would have been the same without operation; in fact, such a case would no doubt have existed as Dr. Balcom reports in his paper, recently published in these columns.

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## BOOK NOTICES

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**BACTERIAL FOOD POISONING.** By Dr. Dieudonné, of Munich. Translated and edited by Dr. Charles F. Boldun, of New York City. E. B. Treat & Co. Price, \$1.00.

Dr. Dieudonné's recent book on "Ptomaine Poisoning" has been very favorably received, and the present translation, with additional consideration of methods of treatment, and the addition of an index, offers to the English reading

public an excellent book. It includes a concise but sufficiently full explanation of the etiology, bacteriology, pathology, symptomatology, prophylaxis, and treatment of so-called ptomaine poisoning. The book closes with an excellent bibliography of the subject.

**DISORDERS OF THE BLADDER WITH TECHNIQUE OF CYSTOSCOPY.** By Follen Cabot, M. D., Professor of Genito-urinary diseases, Post-graduate, medical school, New York. E. B. Treat & Co., New York, publishers. Price, \$2.00.

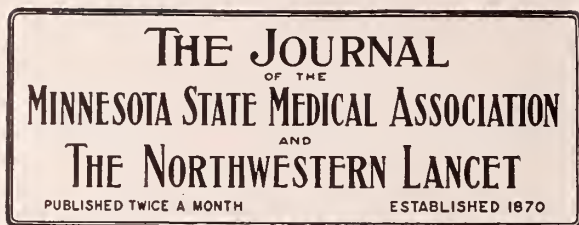
In this book of 225 pages Dr. Cabot has condensed a large amount of interesting material. It is largely a record of his personal experience in teaching the subject of diseases of the bladder, at the New York Post-Graduate Medical School, and covers very fully the principal methods of diagnosing and treating diseases of the urinary bladder. Full consideration of the cystoscope and its uses has been included, but the other useful methods of diagnosis have also been discussed. For the specialist as well as the general practitioner this will prove a very useful book.

**APPENDICITIS AND DISEASES OF THE VERMIFORM APPENDIX.** By Howard A. Kelly. Second edition. J. B. Lippincott Co., Publishers, Philadelphia, 1909.

It is a pleasure to call attention to a volume so well written and so beautifully illustrated as this, the second edition of Dr. Kelly's work. Every phase of the subject of appendicitis has been carefully covered, and the book is a veritable storehouse of facts. Especial attention has been given to the practical aspects of the subject. It is scarcely necessary, however, to call attention in detail to this well-known work.

The book opens with an excellent chapter on the history of appendicitis, and in this connection it is interesting to note the important part which members of the profession in this country have played in the evolution of what is known of appendicitis. In the words of Dr. Kelly, "Dr. Fitz has done more than any other one man to bring about a right understanding of the morbid conditions affecting the vermiform appendix." To Dr. Fitz is also due the credit of coining the term "appendicitis," and it was Dr. T. G. Morton, of Philadelphia, who, on April 27, 1887, performed the first successful laparotomy followed by the removal of the appendix, the operation being undertaken with the latter end in view.





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JUNE 1, 1909

## THE SEMIRESPONSIBLE

Though there is still much to be learned, both as to the nature and treatment of the insane, yet their place in the world is pretty well established, and there are probably no civilized countries at present which do not have laws governing their treatment and control. It is quite otherwise with the semi-insane and semiresponsible. Though more numerous than the wholly insane, yet there is no provision for them. They wander more or less at large, with full liberty to propagate themselves, and are in no way restrained from injuring the public. A perusal of the newspaper reports of crimes will show how common these people are, what a menace they are to their fellow citizens, and how little their unbalanced state is recognized by the public, or even by the medical profession, until after some highly abnormal and perhaps criminal act has been committed. Nevertheless, the number of feeble-minded individuals, of satyriasts and nymphomaniacs, of dipsomaniacs, of kleptomaniacs, of the abnormally jealous, and of the would-be suicides, far exceeds the number of those who are recognized and treated as being insane. When they come

into conflict with the existing order of things, it is a problem to decide as to their disposal. Some would ignore them; others advocate seclusion. To confine such individuals would at once deprive us of many of our geniuses; to leave them at liberty exposes us to their misdeeds. If they commit a crime, the plea of insanity is at once set up, and by means of it they often escape a penitentiary sentence; but if sent to an insane hospital they are usually discharged in a few months, and the public is again at their mercy.

Society has two duties to perform in connection with this group: first, to diminish their number as far as possible; second, to protect itself against the acts of individual members.

To absolutely do away with such individuals is impossible in the present state of civilization. In a Eutopia where men and women were suitably mated, where children were well born and reared, where crude brains were not over-educated, and where life was not over-strenuous, the number of insane and semi-insane would be a negligible quantity, and the nearer we can approach to this ideal state of things, the fewer semi-insane we shall have to deal with. In the meantime, it is the office of preventive medicine to recognize the abnormality of these individuals when it exists, and to demonstrate to their relatives the necessity of proper discipline, training, education, and choice of work, and, finally, it ought to be with the physician to determine the degree of responsibility when the indiscretion or crime has been committed.

## THE PATHOLOGY OF OLD AGE AND THE PROLONGATION OF LIFE

Many have sought the fountain of perpetual youth, but no one has found it, and but little, if any, has been added to the normal period of life. To be sure, the average duration of life is greater than it was a century ago, but this is largely due to the prevention of certain communicable diseases, so that not so many as formerly die in youth. Indeed, unless we regard as a myth the testimony of the Bible as to the Methuselahian ages, or assume that there is an error in the accepted numerical terms, man's life is much briefer now than in those bygone days.

A popular medical writer in lay journals has recently assured us that there is not a single authentic instance of anyone attaining the age of one hundred years. This statement in turn, however, must be accepted as very doubtful, since



there are many claimants to that honor, all with more or less credible evidence. Doubtless the number of centenarians is greatly less than the newspapers would have us believe, since most of the claimants are among the poor and ignorant, whose records are usually carelessly kept.

As a matter of fact, however, few really die of old age, but it is the condition which accompanies or constitutes age which permits a relatively slight infection to cause death. What it is that constitutes this change as years go by, and what causes it, has remained an unsolved problem. That man is not merely a machine which wears out as inanimate machines do, is shown by the fact that in the early part of his career he constantly adds to his vigor and usefulness, and it is only in later years that he progressively fails. To say that there is something inherent in the cells which limits the period of their activity, merely states the problem in a different form. Why is it that the puppy has reached maturity at a time when the human being has scarcely left the mother's breast, and has reached the senile state before the child has attained to puberty? Is the pathological condition of the dog at fifteen the same as that of a man at eighty, and, if so, what determines the time of onset of senility in each?

The cold-blooded animals, as a rule, live to a great age, and fishes, alligators, crocodiles, tortoises, and turtles are all known to live well into the second century. On the other hand, most birds die at ten to twelve years, while the eagle, vulture, and parrot attain ages varying from eighty to one hundred and twenty years.

To a certain degree, longevity is reduced as we ascend in the scale of vertebrate life; thus, mammals, if we except elephants and man, do not reach an advanced age. Metchnikoff, in a recent publication, endeavors to show that those mammals having a large intestine are shorter lived than those destitute of this organ, attributing their short life to the results of the putrefactive changes which take place in this reservoir of waste material. The poisons so developed stimulate the activity of the phagocytes, which serve not alone to destroy bacteria, but may also, under certain circumstances, replace the higher cell elements of the body, in this way becoming its greatest enemies, and bringing about the change which we know as old age. Certain poisons, as syphilis and alcohol, may act to bring about the same result. By the adoption of hygienic measures, such as will prevent putrefaction, and par-

ticularly by the use of lactic acid, which serves this purpose, Metchnikoff leads us to hope that life may be prolonged to a stage where death will be natural and expected, the instinct of life having changed to an instinct of death.

After all, the great desideratum is not so much that we should *die* at an advanced age as that we should *live* into a happy, unselfish, and optimistic old age, and this we may do only by the rational, normal, and temperate use of our functions in the prime of life.

### ANONYMOUS COMMUNICATIONS

Quite frequently we have anonymous communications which we should be pleased to answer, either directly or through the columns of THE JOURNAL-LANCET. One such is now before us, but in the absence of the name of the writer we cannot give him certain information which would show him the grievous error into which he has fallen, nor can we properly take the subject up in this place.

This matter of anonymous letters to newspapers has been before the public from time immemorial, and will perhaps remain for all time to come; and yet people will persist in asking editors to treat subjects, generally abuses, which may greatly need treatment, in the columns of the public press, but the one thus bringing them to the editor's attention is often afraid to sign his name to a proper communication.

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## REPORTS OF SOCIETIES

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### MINNESOTA ACADEMY OF MEDICINE

The May meeting of the Academy of Medicine was held at the Minnesota Club, St. Paul, on the evening of the 5th, dinner being served at 7 o'clock to thirty-nine members.

A short business session followed. A resolution was adopted that there should be no meeting of the Academy in June, owing to the meeting of the American Medical Association at that time.

Dr. Cornelius Williams, of St. Paul, presented a case clinically upon which he had operated for infection of the frontal sinus. The man had complained of excessive pain in the forehead, of a jumping, boring character. Examination of the nose proved negative. The outer table of the bone was chiselled away, making a trench over the sinus, and a quantity of creamy pus oozed

out. It was thoroughly cleansed out. There was no suppuration following the operation, and the man was well and went to work in a week. The only effect remaining, aside from the scar, is a slight numbness above the line of the incision.

Dr. A. E. Benjamin, of Minneapolis, reported a case of adenocarcinoma of the cecum and exhibited the specimen. It occurred in a young man whose case had been diagnosed as appendicitis. X-ray examination had proven negative. Upon opening the abdomen a small mass was found. The muscle-splitting operation was made, and the appendix removed. He did well for two weeks, when he had pain for two or three days though but little temperature. Shortly afterward he developed a small abscess under the skin. In the fourth week a mass could be felt in the pelvis like a kidney. The diagnosis was then made of possible carcinoma. Operation was done, a portion of the cecum removed, and rapid recovery followed. The radical operation should, however, have been made at first.

Dr. George E. Senkler, of St. Paul, reported a case of suppurative diverticulitis of the sigmoid. A man, 64 years old, who had had no previous illnesses, had been taken the day before he came under observation with severe pain in the lower part of the abdomen. Upon examination there was no distention. There was a swelling in the right inguinal canal. He had had hernia for years, but it had always been easily reduced. A diagnosis was made of inflamed, incarcerated hernia, and an operation was done on the third day. No change in his condition occurred, however. His temperature was 100°, there was vomiting, and the bowels had moved three times prior to the operation. The pulse became rapid. A second operation revealed a quantity of pus in the pelvis and a large mass behind the bladder, which proved to be the suppurating diverticulum and the cause of the trouble. The man died, and the specimen was removed post mortem.

Dr. A. Shimonek stated that he had seen the above case with Dr. Senkler and had operated with him. He considered this form of trouble of great importance and is inclined to believe that almost innumerable deaths occur from diverticulitis and similar conditions. He cited another case which he believes not to have been of this nature, but which was like tuberculosis of the bowel. In another case he had found diverticulitis and a large number of enteroliths. These patients may have repeated attacks like recurrent

appendicitis. These inflamed diverticula may adhere to the bladder and finally form vesicorectal fistula. He thinks that diverticulitis occurs many more times than we think.

Dr. J. L. Rothrock, of St. Paul, then read a paper, entitled "The Serum Treatment of Puerperal Sepsis, with Report of Six Cases."

Dr. Roberts asked whether it might not be an advantage to give a large dose of the serum, as in the treatment of diphtheria. He prefers in the latter to give from 12,000 to 18,000 units at first, rather than to give small doses and repeat the operation.

Dr. Ramsey asked why the serum may not be used in the angina of scarlet fever since that is a streptococcic infection. He also raised the question of over-sensitiveness on the part of some persons. He has seen cases in which a very severe urticaria had followed the use of the serum. Dr. L. C. Bacon cited three cases in which he had used the serum. His experience had been that if given early its effects are very satisfactory, but that if given late after symptoms have subsided pretty well its use is followed by very profound prostration. He uses it now only to control.

Dr. Cates said that he had had no experience with the use of serum in puerperal sepsis, but that in one case of peritonitis following an attempted abortion he had obtained brilliant results from its use.

Dr. Rothrock said, in closing, that he felt the need of apologizing for the cases of sepsis reported. He wished to state that all had occurred within five years, and all had been hospital cases. He considers a hospital a dangerous place, because the germs there are dangerous germs. He does not consider the large initial dose an advantage. The makers of serum recommend frequent smaller doses, i. e., from 10 to 20 c.c., from four to six hours apart. Unfortunately there seems no means of standardizing serum. As to its use in the angina of scarlet fever: Results are not good because it is usually late, 24 to 48 hours, before it is given. Then, too, we are not sure that the streptococcus is the cause of scarlet fever. In all the six cases he reported the trouble was due to the streptococcus, for it was verified in each case by the bacteriological test.

Dr. Frank Burch, of St. Paul, then read his inaugural thesis: "Hereditary Manifestation of Ocular Syphilis."

ARTHUR W. DUNNING, Secretary.

## HENNEPIN COUNTY SOCIETY

The Society held a regular monthly meeting on May 3d, with sixty-one members present.

H. M. Stocking's offer for making collections was accepted, and he will act as the official collector of the members of the Society. He furnishes unlimited credit reports to the members free of charge.

A committee to extend "the glad hand" to new members and visitors was appointed.

Papers were read as follows: "Congenital Syphilis," by Dr. F. R. Wright; "Parasyphilitic Manifestations," by Dr. Leo M. Crafts; "Cutaneous Symptoms of Syphilis," by Dr. M. P. Vander Horck; "Therapy of Syphilis," by Dr. S. E. Sweitzer. Dr. J. E. Moore presented a specimen of lycoma bronchial cyst.

The following were elected to membership in the Society: Drs. Edward E. Austin, A. F. Blomburgh, Chas. A. Erdmann (reinstated), Pearl M. Hall, W. C. Hanscome, Wm. H. Hallowell, Julia M. Jacobson-Keats, Geo. A. Kohler, Olaf E. Krogstad, H. H. Leavitt, C. O. Maland, H. N. Meleck, R. M. Pederson, Geo. F. Roberts, W. B. Roberts, C. L. Rodgers, J. C. Sessions (reinstated), Norman M. Smith, J. Leslie Stone, Hugh Tunstead, and J. K. Moen (transferred from Southwestern Medical Society).

C. H. BRADLEY, Secretary.

## RICE COUNTY SOCIETY

The society met at Northfield on May 13th, with twenty members present.

Papers were read as follows: "Intestinal Obstruction, with Special Reference to Volvulus and Intussusception," by Dr. M. L. Mayland, Fairbault; "Talipes Equinus Varus," by Dr. McChesney, Brooklyn, N. Y.

The committee to consider the Andrews' resolution reported the following substitute, which was adopted:

*Resolved*, that the Rice County Medical Society place its stamp of disapproval upon the giving or receiving any money or other consideration in the securing of medical or surgical business, and that proof against any physician or surgeon be sufficient cause for expulsion from the medical societies to which he belongs.

The following resolutions were passed:

*Resolved*, by the Rice County Medical Society, that we extend to our colleague and fellow member, Hon. J. R. Phillips, and also to our colleague, Hon. J. A. Gates, of Kenyon, our hearty appreciation of the valuable work they did in

preventing bad medical legislation in the recent session of the state legislature and for their good work along medical lines.

It is further resolved, that the Secretary be instructed to incorporate these resolutions upon the records of this meeting.

F. U. DAVIS, M. D., Secretary.

## JACKSON COUNTY SOCIETY

The Society held its semi-annual meeting at Heron Lake on May 11th, with nine members present.

Papers were read and clinical reports made by Drs. Portman, Allen, Richmond, and Moe.

The meeting was a good one and the Society is in a prosperous condition.

A. J. MOE, M. D., Secretary, *pro tem*.

## WASHINGTON COUNTY SOCIETY

The Society met at Stillwater on May 11th, with eleven members present.

Papers were read as follows: "Eczema," by Dr. M. P. Vander Horck, Minneapolis; "Hypodermic Medication," by Dr. Boyd T. Williams, Hudson, Wis.; "Retrodysplacements of the Uterus," by Dr. G. H. Burfiend, Afton.

F. G. LANDEEN, M. D., Secretary.

## CLAY-BECKER COUNTY SOCIETY

The Society met at Moorhead on April 26th, with ten members and twelve guests present, among the guests being Dr. H. B. Sweetser, of Minneapolis, and members of the Cass County (N. D.) Society.

Papers were read as follows: "Puerperal Infections," by Dr. L. M. Lowe, of Glyndon; "Nasal Obstructions," by Dr. J. E. Carman, of Detroit; and "Abdominal Emergencies," by Dr. H. B. Sweetser, Minneapolis.

This was one of the most successful meetings ever held by the Society and showed an awakened spirit. One new member was elected, and the Society was enthusiastic as to the future.

The next meeting will be held at Detroit on July 26, 1909.

E. R. BARTON, M. D., Secretary.

## BLUE EARTH COUNTY SOCIETY

The Society met on April 26th, with ten members present.

Two papers were read, as follows: "Some Observations on Typhoid Fever," by Dr. Jane C. Hughes, Mankato, and "Prophylaxis of Ty-



phoid Fever," by Dr. A. O. Bjelland, Mankato.

Dr. G. A. Dahl was elected a member of the Board of Censors to fill out the unexpired term of Dr. W. A. Beach (withdrawn from Society).

T. C. KELLY, M. D., Secretary.

## PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls on April 21st, with eighteen members present.

Papers were read by the following: "Anti-toxins and Vaccines," an illustrated talk by Mr. E. G. Bassett, Minneapolis; and "Traumatic Surgery," by Dr. Walter Courtney, Brainerd.

Both papers were excellent, and the meeting was very interesting and instructive.

O. M. HAUGAN, M. D., Secretary.

## CAMP RELEASE DISTRICT SOCIETY

The Society met at Granite Falls on April 23d, with ten members present.

Dr. E. O. Giere, of Madison, read a paper on "Treatment of Uterine Fibroids."

The meeting voted to endorse the report of the Committee on Medical Defense, and instructed the delegate to vote for it at the next meeting.

The meeting also endorsed Dr. Andrews' resolution.

The next meeting will be held at Dawson.

Dr. F. L. Puffer, of Bird Island, was elected to membership.

Officers were elected as follows: President, Dr. W. A. Lumley, Renville; vice-president, Dr. F. H. Hacking, Granite Falls; secretary-treasurer, Dr. R. D. Zimbeck, Montevideo; censors, Dr. F. H. Hacking and Dr. R. D. Zimbeck; delegate to State Association, Dr. R. D. Zimbeck; alternate, Dr. H. M. Johnson, Dawson.

R. D. ZIMBECK, M. D., Secretary.

## UPPER MISSISSIPPI SOCIETY

The Society met at Staples on April 6th, with thirty-six members present.

Papers were read as follows: "Edema of Larynx," by Dr. Paul Kenyon, Wadena; "Epidemic Jaundice," by Dr. W. G. Cameron, Staples; "Essential Points in Treatment of Syphilis," by M. A. Desmond, Akeley.

Large numbers visited the Tuberculosis Exhibit Monday and Tuesday and showed much interest in the exhibit and lectures. The open meeting was in the evening at the opera house, which was packed. There were addresses by

Dr. Marclely on "How We Cure People at Walker;" by Dr. H. M. Bracken on "Public Health and People;" and by Dr. F. F. Wesbrook on "Who Is Responsible for Public Health?"

G. H. LOWTHIAN, M. D., Secretary.

## NEWS ITEMS

### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. R. G. Campbell has located at Braddock, N. D.

Dr. F. C. Wheat, of Marshall, has moved to Minneapolis.

Dr. E. C. Adams has moved from Minneapolis to Chaska.

Dr. G. G. Kerns has moved from Roscoe, S. D., to Leola, S. D.

Dr. F. R. Walters, of Moose Lake, is building a hospital at that place.

Dr. E. F. Swarthout has moved from Sykeston, N. D., to Streeter, N. D.

The Northwestern Hospital at Eau Claire, Wis., has been sold to Minneapolis men.

The \$25,000 addition to the Immanuel Hospital of Mankato, will soon be completed.

An addition to the Mounds Park Hospital of St. Paul is to be built to accommodate the nurses.

Dr. George W. Davis, of Duluth, was married last month to Miss Ella L. Longtin, of the same city.

Dr. A. B. Everton, of Chicago, has become connected with the Nashwauk Hospital, at Nashwauk.

Dr. John C. Koch, of Blackduck, won the malpractice suit brought against him for a wrong diagnosis.

Dr. E. O. Voyer, of Minneapolis, has gone East for special work in New York and Philadelphia.

Dr. W. R. Claybaugh, of Rolette, N. D., is fitting up a building to be used as a hospital at that place.

Drs. C. W. and Mary A. K. McDade have sold their practice at Ceylon, and will probably locate in California.

Dr. J. A. Du Bois, of Sauk Center, was a delegate from this state to the Peace Congress, held at Chicago, last month.

Dr. W. L. Steele, of Helena, Montana, one of the oldest physicians in the state, died last month at the age of 76.

Dr. W. A. Chamberlin, who recently sold his practice at Waseca to Dr. Alex. J. Rudolf, has begun practice in St. Paul.

Dr. H. S. Plummer, of Rochester, read a paper at the annual meeting of the Ohio State Medical Association held at Cincinnati last month.

The handsome and commodious building of St. Lucas Hospital was dedicated at Faribault last month. The building and furnishings cost about \$70,000.

Dr. J. V. Anderson, of Red Wing, was married last month to Miss Esther Colby, of Elgin. Dr. Anderson and his bride have gone to Europe for several months for study and travel.

Dr. and Mrs. C. Graham have given Rochester \$500 and the city will raise \$500 more for the employment of a trained nurse to look after cases of tuberculosis among the poor of the city.

The superintendents of nurses' training-schools, and the Nurses' Associated Alumnae of the United States hold their annual convention in St. Paul next week (June 7th to 12th). The delegates will be royally entertained in both St. Paul and Minneapolis.

Dr. H. A. Tomlinson, of St. Peter, was elected president of the Minnesota state association for the study and prevention of tuberculosis, and Drs. Wilson and Crewe, of Rochester, were elected members of the board of directors of the national association.

Dr. Adele S. Hutchinson, of Minneapolis, died last month at the age of 56. Dr. Hutchinson was a prominent Homeopath, and represented her school on the State Board of Medical Examiners. She was a member of the staff of the City Hospital for a number of years.

The North Dakota State Medical Association held its annual meeting at Fargo last month. The attendance was large, and the meeting was one of the best in the history of the Association. The matter of publishing a quarterly journal was con-

sidered and referred to a committee. The following were elected officers for the current year:

A Dr. F. H. Devereaux, of Chicago, has been suing three Minnesota physicians in the Hennepin County courts for \$11,500, the balance due on the purchase price of \$12,000 for an antitoxin guaranteed to cure rheumatism, pneumonia, cancer, typhoid, etc. The defense claimed fraud in the sale, and the jury gave a verdict of \$500 against Devereaux.

The Montana State Medical Association held its annual meeting last month at Missoula. The meeting was large and enthusiastic, and the entertainment of the visiting physicians by the Missoula physicians was sumptuous. Dr. Wm. Chowning, of Minneapolis, gave an address on "Spotted Fever," which he has been studying in that state for several years.

At the April examination of the Montana State Examining Board, forty-one candidates appeared, and only seven failed to pass. Certificates were granted to the following: Fred L. Shelby, Helena; F. K. Lewers, Belgrade; H. H. Arnold, James D. Barrett, E. F. Ross, Billings; B. P. Blackstone, Sac City, Iowa; Julius Frank, Sidney; Jacob Visser, Seattle; George A. Lewis, Ismay; H. H. Fowler, Lewistown; Roy E. Seitz, Musselshell; E. E. Gains, Wibaux; Eugene Brinwjone, Terry; S. T. Faucett, Friendship, Wis.; Marie H. Hyde, W. G. Wendell, Sadie B. Lindeberg, Miles City; E. J. Greer, Charles Visette, Butte; Arthur Kahala, Erskins, Minn.; Charles S. Smith, Alberta; L. Moffit, Bozeman; John H. Garberson, Deer Lodge; Allen G. Fuller, Iron Mountain; A. W. Morse, Wayne A. Cochrane, Missoula; Edmond Desmond, Spokane; J. P. McGrath, Eureka; G. W. Stoyer, H. G. Willard, Three Forks; Ernest G. Sasse, Bridger; R. L. Chipman, Stockett; C. L. Ramsey, Pipestone Springs; A. V. Blackstone, Absarokee; M. J. Casserly, Hamilton; E. O. Colvin, Ekalaka; W. R. Smith, Roundup; C. E. Whitehead, Logan; E. H. Rawls, Laurel; A. B. Hardon, Choteau; T. B. Stutzman, Moore.

#### PHYSICIANS LICENSED AT THE APRIL, 1909, EXAMINATION TO PRACTICE IN MINNESOTA

##### UPON EXAMINATION

Dahleen, Henry E.	U. of Minn., 1908
Esser, John	U. of Minn., 1908
Lawrence, Edward J.	U. of Minn., 1908
Ryan, Dennis E.	U. of Minn., 1908

## RY RECIPROCITY

Andersen, Louis N. P. & S., Kansas City, 1896  
 Allen, Roy Wm. U. of Iowa, 1904  
 Ellis, Wm. Edward McGill, 1887  
 Gramling, Jos. John Ind. Univ., 1908  
 Harris, Herbert Ira U. of Buffalo, 1898  
 Hoffman, Jacob L. U. of Christiania, 1894  
 Jones-Clark, Lenna E. Hahnemann, Chicago, '05  
 Kirmse, Geo. Wm. St. Louis Univ., 1907  
 Levin, Herman E. Milwaukee Med. Col., 1904  
 Lovell, Arthur I. Chicago Col. of M. & S., 1908  
 Manger, Chas. C. Medico-Chir. Col., Pa., 1906  
 Marken, Martin H. Northwestern, 1905  
 Martin, Geo. Henry U. of Iowa, 1907  
 Montgomery, John R. P. & S. of Ill., 1902  
 Neal, Benj. E. Miami Med. Col., 1889  
 O'Connor, Pat'k H. Hahnemann, K. City, 1906  
 Pengelly, Edward J. Northwestern, 1906  
 Russell, Ben P. & S., Baltimore, 1896  
 Sellers, Harry H. U. of Vermont, 1893  
 Thomas, James S. Northwestern, 1907  
 Torkelson, Peter T. Chicago Col. of M. & S., '08  
 Walter, Guy F. U. of Minn., 1906

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

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*Physicians, Attention.*—Drug-stores on easy payments, etc. Drug-store positions, United States or Canada. F. V. Kniest, Omaha, Nebr.

*Stenographic Work.*—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## NOTES ON A TRIP ABROAD

DR. THEODORE SCHOTT AND BAD NAUHEIM

By THE EDITOR

I find it not an easy task to write in detail of the many interesting events which have passed in review in the past twelve weeks.

Travel is in one sense a rest because it means a diversion of mind and a freedom from the minor worries and cares, but travel also produces bodily tire, which, in turn, demands bodily rest. Between the two it is difficult to take up broken threads and make them into substantial cloth; therefore my note may be more or less varied.

Of course, the whole world knows that ex-President Roosevelt started on his hunting trip on the steamer "Hamburg," and it was my privilege to be on the same boat and to meet and know this justly famous man; and if you would like to read a crisp and newsy account of the voyage I advise that you get the May 15th number of the "Bellman" and read what Mr. Edgar, who was on the same boat, has to say.

Colonel Roosevelt, as he preferred to be called, is like many other good men, jovial, courteous, and genial to an extraordinary degree, and not in the least unapproachable, nor did he remind one of his past important office and career. He talks on almost any subject and has a marvelous mind and retentive memory which suggests the student, scholar, and observer. He is outspoken and frank in his statements and has good and sufficient reasons for his opinions. He is a man of excellent habits, without a suggestion of dissipation or of being the possessor of any of the great or small vices. His presence added great pleas-

ure to the voyage, and his sturdy tramping of the deck and his courtesy to all the passengers, and his unaffected indifference to all forms and ceremonies to which he was subjected at points of landing, made him a constant object of admiration.

In conversation with him he told me of his admiration for our governor, John A. Johnson, and spoke in sincere praise of his personality and administration. Colonel Roosevelt is quick in his recognition of the good in one and equally prompt in setting the stamp of disapproval on those he believes insincere. I could tell much more of this interesting man, but I have planned to tell my readers of other things, including a few medical observations. I can only add that those who had an opportunity to meet Colonel Roosevelt at "short range," wish him continued success and a safe and sure return.

After a voyage of fourteen days, the ship came into the beautiful harbor of Naples, and with its soft breezes and mellow sunshine, all of the clouds, rough waves, and discomforts of a long trip were speedily forgotten.

Naples and its environs are a lasting joy and a beautiful remembrance. The views from the hotel up the mountain side and above the untidiness of the city on the bay front are glorious. Vesuvius remained quiescent and breathed neither smoke nor fire during our stay. The famous drive to Pompeii, Amalfi, and Sorrento is as fine as can be found anywhere. There may be other

countries that have drives of renown, but it is hard to conceive of any more beautiful than the Amalfi drive.

There are certain places among the ruins of Pompeii that are shown to men only, and it might be better if they were shown to physicians only, for they are rather clinical in their character. They also suggest that the world is still much the same as in the early days as illustrated by the findings among the excavations at Pompeii. You can find evidences of vice and brutality in any place you may choose, but to think that they have been pictured and preserved for hundreds of years is not particularly elevating.

The old monastery at Amalfi has been recently converted into a hotel, and as it is up the mountain one can either be carried there by bearers or he can toil up the one hundred and sixty steps. The same cells formerly occupied by monks and priests are now guest-rooms, although two cells have been thrown into one and thus made large enough for comfort.

The orange and lemon groves that cover the hillside and line the gorges are continued up to and about the walls of the old monastery, and the guest is welcome to all the fresh fruit he can pick. The fresh taste is quite different from that of the fruit bought at the stalls.

I cannot tell you much about Rome, but I can advise you to get some good book and read up on Rome before you attend the International Congress on Tuberculosis to be held there in October, 1911.

Rome is a wonderfully attractive city in spite of its dusty roads and streets. We could see only a part of the great sights. It gave us much pleasure to roam over the Palatine hills without the effervescent guide or even a guide-book.

The day was warm and typically Italian, and to wander over these old ruins in full view of the Coliseum and the Forum, and to see the city of hills was a delight. A side trip to Tivoli and Hadrians and Villa D'Este, in an automobile, added another day of joy and expense to the trip, but it was well worth the extra charge. Incidentally, I want to note here that one cannot get entirely away from Minneapolitans. Wherever you go you may confidently expect to meet some one from home. We met them in Rome, Naples, and other cities, and I was occasionally called on to render professional services.

We attended the ceremony of the Beatification de Jeanne d'Arc at St. Peter's in Rome and were jammed, crowded, and bruised by a portion of the remaining sixty thousand people who partly

filled that great edifice, but in spite of our trouble we saw His Holiness the Pope, a kindly faced man who looked as if he longed to be free to mingle with his people rather than be confined in a limited space, even though he was surrounded by beautiful and historic settings.

On the same day I accidentally ran across His Majesty the King as he was coming out of one of the barracks after an inspection of his troops. He came out of an enclosure in his fine automobile, looking very good-natured, and I doffed my derby to "Il Re" and got a return salute. Of course jealous people will say he was saluting a crowd,—perhaps he was.

The following day I had the extreme satisfaction of closely inspecting Wilbur Wright's flying-machine, and later in the day to see its astonishing performance as it circled like a bird, dipping and soaring about the great course guided by the man who built it and manipulated its levers. Notwithstanding the beauty of its flight, I am perfectly willing to drive an automobile that usually stays closer to the ground; at least on the continent it is possible to keep near Mother Earth even though the Minnesota roads frequently throw the automobile and its driver toward heaven by the unevenness of the surface.

From Rome to Florence is but a few hours by train, and the vineyards and orchards and quaint cities and hills dotted with castles, chateaux, or monasteries which line the way, make the trip an interesting one. Florence is a city of beauty with its churches, famous picture galleries, and hill towns; and it is not strange that many American and English families go there for the advantages and living at a modest sum. One can live well, including bed and board, for six francs, or \$1.20, per day. The shops here, as elsewhere in Italy, are very tempting, and it requires courage and strength sometimes to drag one's wife from the display windows.

Venice is another place where temptation is a constant menace to pleasure and sight-seeing. The canals of Venice are famous and likewise contain much of the debris of the city, but the easy-going people rely on the incoming and outgoing tide for the collection and destruction of its garbage. The health-rate of Venice has improved much in the past few years, and many old and unsanitary buildings have been destroyed in the march of progress. Fortunately, Venice is built on islands, and this gives them many advantages—one island is used wholly for tuberculous patients, and the climate makes it possible for them to live an ideal out-of-door existence.

Another group of islands is devoted to the hospitals for the insane, men and women being isolated on separate islands. One large island is the cemetery, and, if the friends of the dead are able to pay annual sums, the body is left undisturbed, but if after a certain time the funds required are not forthcoming, the remains are exhumed and cast into the bone heap, like the old catacomb method, and the new-comer occupies the previous habitation of the financially handicapped body.

The people of Italy are slowly awakening to the needs of better health measures, but from what everyone sees of the untidiness, carelessness, and filth of the average Italian commoner, it will be many decades before much of the necessary reform in health measures is accomplished, and those who think it an easy matter to stamp out tuberculosis should study the ingrained habits of some of the foreigners.

The treasures and pictures in Venice are priceless, and the coloring is even more beautiful than seen elsewhere in Italy. The hotels are located in old palaces, built hundreds of years ago, and the attempt to add hygienic plumbing to such old buildings is not a sweet-smelling success.

If I were to go to Venice again, I should step from the railway train into an express boat and go to the Excelsior Hotel on the Lido, an island twenty minutes ride from the station. It is a new, modern, luxurious hotel where one can sit and gaze on the blue Adriatic and have all the comforts for a very modest sum. It takes only ten or twelve minutes to go over to the city, and then, if you choose, a gondola will take you anywhere, or if you please you may walk to any important part of the city. There is a good deal of sentiment about the Grand Canal, but if one were young and out in a gondola with a fairly musical gondolier to sing while the full moon casts its light upon the dingy houses, it might be possible to enthuse.

From Venice to Innsbruck is a seven-hour trip; and the beauty of the mountains and the valleys and the soft climate amply repay one for a sojourn in the historical old Austrian City. We had visited it once before and were glad to go again. It gives one a sense of awe to look up from one's dining-table and see a great, high, snow-capped rock wall almost near enough to touch, but if you love mountains you can get your fill at Innsbruck.

Munich, a modern but dignified and quiet city, is a center to which many radiate, but the two days we were there the cold wind blew the red

corpuscles out of the marrow of our bones, and we were glad to run on to Nürnberg, formerly a quaint old village that one could circle in two or three hours. Now it is a city without the walls. The old part is preserved, but invaded everywhere with the new. Although the old walls and towers remain they have been opened at various points to admit the streams of commerce from the new city outside. Wonderful railway stations, palatial hotels, electric trains, and other modern conveniences show the progress of the past twenty years.

If one wishes to gauge the advance in Germany, a visit to Worms will show why Germany is in a position to dictate to other powers.

When I first saw Worms, twenty-two years ago, the Luther monument and a few old houses were the attraction. Now it is a magnificent city with great buildings, wide and busy streets, and a bridge over the river that is monumental in size and beauty, and a Union Station that would make ours topple into the Mississippi for sheer shame.

Frankfort is now about the size of Minneapolis, and it is full of stir and bustle and evidently does a large business. Fortunately, the old structures are retained, and many of them restored, but they are overshadowed by the new business and park centers. The Frankfortians are getting ready for a contest in the air from July to October. A plot of ground has been selected, and enormous buildings have been erected and the necessary appliances constructed for balloons and flying-machines. The beautiful statue of Ariadne and the Panther is alone worth a visit to Frankfort, and the park system is interesting. Again attractive shops of all kinds and again the same effort to fly from temptation, but this time unsuccessfully.

From Frankfort to Bad Nauheim is but a few miles. The intervening country is beautiful at this season of the year, and my experience there was interesting.

So much has been written of Dr. Theodore Schott and his methods that it may seem useless for me to attempt any sort of description of either Dr. Schott or the locality that has become so famous through his efforts. The government has spent millions of marks on this resort to protect and develop its healing springs, and as a consequence many physicians have located there, and, as might be expected, the usual criticism and littleness have cropped out.

In earlier days Dr. Augustus Schott, the elder brother of Theodore Schott, was attracted by



the springs and began to study their effects upon patients. Later, by a few years, he was joined by his younger brother, who became associated with him in his investigations. When Augustus Schott died, twenty-three years ago, the work begun by him was continued and has since been brought to its present state of completeness by the present living Dr. Schott, a man of scientific attainments and tremendous energy. He is modest and unassuming, and he cheerfully and gladly gives his deceased brother all the credit for what he is today. Those who know him well are more inclined to give him due credit for his own personal work and for the fulfillment of uncompleted studies begun years ago rather than to give all the praise to his deceased brother.

It was interesting to hear that originally the baths and Schott exercises were studied for their beneficial influence on nervous patients, and it was incidentally discovered that those cases complicated by grave heart diseases, such as dilations or hypertrophies from disease of the muscular apparatus, were unexpectedly improved by the treatments. Then the study of the heart was commenced, and the baths and exercises were chiefly directed in this new line of work.

Another interesting bit of information was that the so-called Franckel system of exercises for the treatment of locomotor ataxia sprang from Augustus Schott's methods, and that Franckel was a student at Nauheim. The whole system was developed and taught with the idea in mind that the nervous system and the heart, with their disturbances and diseases, are closely allied, and that what is good for one is good for the other, as events proved by the multitude of cases that flocked to Bad Nauheim.

Dr. Schott has had to fight his way, inch by inch, as the general profession could not understand why baths and exercises could ever in any way take the place of the old-time remedies, like digitalis, spartein, and strophanthus, but if one notes the result of a properly directed bath, with the proper temperature and the length of time suitable for each individual case, followed in time by resistive exercises given by such an expert as Mr. Anton Hinzmann, the reasons for the improvement will be plain and unmistakable.

It has been found that the various baths, *thermol.*, *sprudel.* and *strom.* can be combined or modified as the case requires, but if given indiscriminately or without proper appreciation of cause and effect, the outcome may be nil or even harmful.

I am satisfied from my studies of the litera-

ture, the examination of cases, and the effects of the baths on patients under observation, that the Schott idea is founded on a scientific basis and is the outcome of much labor on the part of Dr. Schott. I know there have been criticisms and denunciation of the ideas and methods, but the truth will prevail, and the soundness of the Schott methods will be fully demonstrated.

Many of the physicians in Bad Nauheim are not willing to give any credit to Dr. Schott, but he still stands at the head of his profession there and is the best known consultant and the safest advisor in that part of the country, and opposition to him is based, as it usually is, on jealousy and unfairness.

Dr. Schott has had many opportunities to advance himself, and he could have been a baron, but he modestly put the honor aside in order that the name of Schott should live.

The bath-houses of recent construction and now building are evidently intended for all times. Their foundations are enormous, deep and extensive, and the upper structures are palatial in their architectural and decorative beauty. If, in future centuries, they should be covered by volcanic eruptions or allowed to fall into neglect and be covered by drifting earth, they may sometime be excavated, and then the old Roman baths that we now see in Italy as evidences of strength and splendor, will be duplicated in Nauheim.

Many of the springs are sufficiently protected by copper conduits or current chambers, so that the natural carbonic acid is almost entirely retained in the baths, and it is manifest, when one is taking a bath, by noting the globules of gas that cover the body as long as the bather remains quiet in the tub. There is no question about the superficial irritant effect upon the skin or the sense of constriction about the body, showing that the sympathetic nervous system is impressed by the bath. The skin becomes pink, and the circulation over the surface of the body is evident, and the pulse becomes slower and more natural. The urine is increased in amount, and there is a general feeling of relaxation, yet the temperature of the bath is from 88° F. to 94° or 95° F. No wonder the heart is able to empty itself and to gather muscle-force and undergo repair. This condition continues if the baths are given with due thought to the result desired, and the strength of the heart is markedly improved by the system of resistive exercises referred to above. The exercises in themselves are to the uninitiated and the unbeliever a simple, senseless form of movement, but if the rea-

sons for their application are understood and they are modified and simplified to meet each case and the rest-period between each movement is carefully observed, the result is astonishing. Hearts that were weak, with faint sounds showing feeble muscle-walls, rapid and seemingly dangerous in their action, become slower, the normal sounds return, and the regularity of the pulse becomes established.

All these things may be accomplished by the exercises alone, judiciously given, both as to time and force. The simpler and slower the exercises are given the more definite the result.

The discussion as to the value of artificial *versus* natural baths will always be a subject of controversy. No one will dispute the statement that the natural baths under the direction of a skilled man, like Dr. Schott, in the atmosphere of Bad Nauheim, with its quiet, restful and attractive surroundings and the absence of all business cares, worries or responsibilities will do more for the patient who is able to get there than any number of artificial baths with the improbabilities of complete release from all cares and anxieties. There is no doubt, however, that much can be done for the invalid who is unable

to go to Nauheim by a fairly regulated system of artificial baths and exercises away from his home and under the care of a man who is interested and watchful.

I can readily see why Dr. Schott is so successful in so many cases. He has a way of inspiring confidence by his persistent cheer and encouraging manner, and no one will deny the fact that "hope infused" is a strong tonic.

His skill in diagnosis is undisputed, and it was gained by his careful attention to details and his exhaustive methods of examination.

It is refreshing to find a man who is not constantly pumping drugs into his heart cases, but, in place of them, chooses safer and saner means for treatment based upon rational and scientific explanation as to their origin and to the prognosis.

Every man who takes the trouble to read this will acknowledge, at least to himself, that his efforts to secure relief by drugs in old heart diseases is not very satisfactory, and he will doubtless recall cases where his drugs may have hastened death when the relief from suffering was expected.

(To be continued.)

## CONSERVATISM IN TRAUMATIC SURGERY\*

### IN THREE PARTS—PART III

By WALTER COURTNEY, M. D.

Chief Surgeon of the Eastern Division of the Northern Pacific Railway

BRAINERD, MINN.

Thus far we have dealt with injuries of common occurrence. Let us now consider those of infrequent event. We may take the injuries of an internal organ and again endeavor to show the importance of conservative treatment.

*Contusion of the Kidneys.*—Contusion of the kidneys is not rare. I have seen quite a number of these cases. It is caused by the application of some form of force, which disturbs the structure of the kidney only sufficiently to cause an extravasation of blood and consequent hematuria.

In all injuries of the loin region, whether received from in front or behind, careful local examination by palpation and percussion should be made. If nothing is found indicative of laceration or rupture, it will still be advisable to col-

lect, measure, and examine the urine. The diagnosis of contusion may be made on the history of the injury,—by exclusion of laceration and rupture and the presence of hematuria. It is well to remember, however, that hematuria may be the result of a dislodged renal calculus, disturbance of a renal tubercular process, or from the presence of a vesical papiloma. The prognosis of a clearly diagnosed case of renal contusion is very favorable, and sequellæ are unlikely to occur. The treatment is medical. Rest in bed and an ice-bag to the loin will usually be sufficient. Ergot may be required.

I would not have spoken of renal contusion were it not that we must consider it as an entity to be differentiated from laceration or rupture.

*Laceration of the Kidneys.*—What we may

\*Read before the Medical Society of the University of Michigan, May, 1908.

say in speaking of this injury will apply also to rupture of the organ, as the latter traumatism is only an extension of the former. The common cause of these injuries is direct violence, though they are sometimes produced, it is said, by indirect force. Direct violence may come from the kick of a horse, the passage of a wagon-wheel across the body, or a fall from a height and striking the loin region on some unyielding structure. Indirect violence may come from extreme muscular action, as in forcible flexion of the trunk or other contortions of the body, or from a fall, striking on the feet or buttocks, and causing severe jarring. Accompanying these injuries there may be others, such as laceration or rupture of the liver, intestines, spleen, or lungs. If the force is applied in front the peritoneum is likely to be torn.

The actual traumatic condition existing in these severe injuries may vary from a laceration of the parenchyma, with intracapsular hemorrhage, to a partial or complete division of the organ into two or more parts. Where the capsule is not torn primarily, there may be a solution of continuity later, with a perinephritic extravasation of urine. I might add, parenthetically, that subparietal injuries of the ureters are exceedingly rare.

**Symptoms:** The principal ones are shock, pain, hematuria, tumefaction, and extended dullness. The amount of shock present, if any, will largely depend on the extent of hemorrhage or injury to other organs. The pain, of a dull aching character, is usually severe at first, and confined to the region of the injured kidney. Later it may radiate to the groin, testes, and bladder. The regional muscles are tense, and the patient inclines to a fixed position. Hematuria is present in most of the cases, the exception being where the ureter is plugged by clot. The presence of blood in the urine may be slight at first and increase later, or be intermittent, with an interval of several days. Diminished discharge of urine for a time is frequently observed. Sometimes blood coagulates in the bladder and prevents micturition. Anuria is probably due to rupture of both kidneys. The appearance of tumefaction and extended dullness in the loin soon after the injury is indicative of rupture and hemorrhage. If the tumefaction comes on slowly and is distinct as to outline, the hemorrhage is probably intracapsular. Late tumefaction is likely to be due to urinary effusion or the formation of an abscess. Hemorrhage is seldom so extensive soon after the injury as to cause death,

unless the large renal vessels have been torn. Anemia will be proportionate to the amount of hemorrhage that has occurred. Peritonitis is not likely to occur early, unless there has been simultaneous injury of the peritoneum and intestine.

**Diagnosis:** Without enumerating the cases that died quickly as the result of other extensive injuries, I have seen five cases of lacerated and ruptured kidneys. These came to me from a few days to several weeks after being hurt. Besides these, I have personal knowledge of another. In only one of the six was a primary or early diagnosis made. I speak of this to show the great importance of making a careful early examination of injuries in the kidney region. Diagnosis of a lacerated or ruptured kidney must be made on the history of the injury, the presence of shock, severe pain, hematuria, tumefaction, or extended dullness. It must be remembered that a widely distributed vulnerating force may have injured neighboring organs also. If pronounced shock is present, the examination should be careful and excursive. The symptoms already given are to be remembered, sought for, and carefully considered.

**Complications:** Hydronephrosis may develop as a result of plugging of the ureter from blood-clot. Perirenal extravasation of urine, to a large amount, may follow when the capsule is included in the laceration or rupture. Pyonephrosis or perirenal abscess is liable to develop from infection, due, in many instances, to the passage of the catheter. Cystitis is a complication sometimes set up by instrumentation of the bladder, for the purpose of removing clots. This, of course, is a grave condition because of the possibility of extension of infection to the kidney and beyond when the capsule is ruptured. Embolic obstruction of the circulation in some distant part may be a late complication in the cases with perirenal effusion of blood which had not been removed.

**Prognosis:** These injuries are serious and always more or less grave. Until a very late date at least, statistics showed that one-third of these cases died, under any form of treatment. Those that have occurred within the past few years would, no doubt, show a reduced mortality-rate. If laceration or rupture exists, without complicating injuries of other organs, and the uninjured kidney is believed to be functionally sound, the immediate prognosis should be favorable. If the peritoneum over the kidney is not torn, hemorrhage will be confined to the perirenal region and will seldom be sufficient to cause death.



The ultimate prognosis will largely depend on the efficiency of the surgical work that must necessarily be performed, and the restoration to partial or complete function of the injured organ, or the capability of the other kidney to permanently do the work of both.

Treatment: If tumefaction or extended dullness in the kidney region is indefinite, and there are no marked signs of hemorrhage or shock, even though hematuria exists, we can afford to wait for a clearer differentiation between contusion, laceration, and rupture. Meanwhile, rest in bed is necessary, and the medical indications may be met. If tumefaction or extended dullness be marked and the condition of the patient will warrant it, operation may be promptly done. Still, many of these cases may be allowed to wait a few days for improvement in their general condition. On the other hand, a case presenting external signs of injury in the kidney region, without tumefaction or unusual dullness on percussion, but showing marked evidence of anemia and shock, should be operated on at once. The peritoneum has, in all probability, been torn, and the hemorrhage from the kidney is passing into the abdominal cavity. Usually, in operating the incision is made in the iliocostal space. On exposure of the kidney the character of the traumatism will be evident, by sight or touch, and we must act accordingly.

Where the parenchyma is lacerated, but the capsule remains intact, there may be enlargement by distension from retained hemorrhage. Incision of the capsule, and perhaps of the cortex, and packing with gauze for drainage, will be sufficient to reduce the enlargement. If the parenchyma and capsule are both lacerated, there will be hemorrhage into the perinephritic tissues. The resulting clot should be removed and the kidney packed with gauze, which will furnish the necessary drainage. If there is a rupture, resulting in a division of the organ, but without destruction of the blood-supply, the injured surfaces may be sutured together, with due provision for drainage. If a portion of the kidney is necrotic, it should be excised and an effort made to save the remainder. Nephrectomy should be done only when the kidney is completely destroyed.

The treatment given above will save most cases and usually a part or all of the injured organ. It will, I am convinced, reduce the previous one-third mortality-rate very considerably.

A very brief history of each of my cases may add emphasis to what has been said and help to show the great reparative power of the kidney:

CASE 1.—Male. The patient was injured by falling from a railway engine and striking his right loin on some timbers. He was admitted to our hospital two days later, his condition undiagnosed. Examination showed tumefaction and moderately increased dullness over the right kidney. Hematuria was present.

Diagnosis: Laceration or rupture of the right kidney.

The patient refused operation. Fifteen days later there was great bulging with extensive dullness in the right loin. Operation was done at this time. Incision was made through the iliocostal space, and about two quarts of fluid evacuated. The fluid contained blood, urine and pus. The cavity was drained. Convalescence was very slow. He recovered completely after five months.

I am convinced that early operation would have shortened the period of recovery several months.

CASE 2.—Male. The patient was injured by the wheel of a hand-car passing over the right loin. He was admitted to the hospital five days after the injury without previous diagnosis. He was very anemic. Hematuria was present. There was extensive dullness in the right loin. There were no external signs of injury. As there was no urgency, and the patient requested it, operation was delayed for two weeks. Debility increased during this time.

Operation: Incision was made in the iliocostal space, and a pint of clotted blood was removed. The wound was partially closed, with drainage. A few weeks later the patient had anesthesia of the right foot, followed by skin ulcers, mostly on the great toe and plantar surface. Complete recovery occurred in two and a half months.

CASE 3.—Male. The injury occurred by his falling from a barn loft onto a manger, striking on right side and back. The attending surgeon made an early diagnosis of probable laceration of the right kidney. I saw the patient six weeks after his injury. He appeared to be fairly healthy. There was no anemia. There was a history of intermittent hematuria. Examination disclosed increased dullness of well-marked outline.

Diagnosis: Laceration of the right kidney with limited effusion of blood.

Operation was done through the iliocostal space. The kidney was found enlarged to more than twice its normal size, and the capsule was thickened to one-eighth of an inch. The capsule was incised, and the wound was packed with gauze. Recovery occurred in three weeks. Two months later the kidney could no longer be palpated and was apparently of normal size.

CASE 4.—Male. The patient was injured by the wheel of a wagon striking right loin and passing over body. He was seen one month after injury, his condition undiagnosed. Very marked hematuria was present. There was a slight increase in dullness over right kidney and patient was very anemic.

Diagnosis: Laceration or rupture of right kidney.

Incision was made in the right iliocostal space, and the kidney explored. One-third of the kidney was necrotic, the greater portion being toward the lower pole. This necrotic tissue was removed, and the poles sutured together. A rubber drain was inserted and the wound packed with gauze. The hematuria and anemia subsided, and the patient was discharged, cured, three weeks later. He has remained well since that time.

CASE 5.—Male. The patient was injured by a car-stake striking the left loin with great force. The case was seen one week later, condition undiagnosed. Tenderness, increased dullness, and hematuria were present. There was some anemia.

Diagnosis: Lacerated or ruptured left kidney.

Incision was made in the left iliocostal space. A large amount of blood-clot was removed from around the kidney, which was found lacerated in its middle portion. A rubber tube was inserted, and the wound packed with gauze. The patient was discharged five weeks later, cured.

## DIVERTICULA OF THE ESOPHAGUS, WITH A REPORT OF SIX CASES\*

By H. S. PLUMMER, M. D.

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Within the last five years there has sprung up a widespread interest in diseases of the esophagus. This is due largely to a recognition of the therapeutic possibilities in idiopathic dilatation and diverticula of the esophagus. The diagnosis of esophageal diseases attracted the attention of but few men as long as these lesions were looked upon as curiosities offering little more than palliative relief from treatment. Because of the technical character of the work, the accurate diagnosis and treatment of esophageal lesions will fall largely under the care of those men who elect to take special interest in this line of work; but the general practitioner should become familiar with their clinical recognition.

In this paper the etiology and pathology of esophageal diverticula will not be gone into further than is essential to introducing the subjects of diagnosis and treatment.

Rokitansky, in 1840, classified esophageal diverticula, from an etiological standpoint, into two groups:

1. Those arising from traction without the esophagus he called traction diverticula.
2. Those arising from pressure within he called pulsion or pressure diverticula.

Oekonomides added a third group, the *traction-pressure diverticula*. In this class, as the name indicates, the traction diverticulum becomes enlarged by pressure from food accumulating within its cavity.

On anatomical and clinical grounds, diverticula may be grouped into—

1. Pharyngeal diverticula.
2. Pharyngo-esophageal diverticula.
3. Diverticula of the middle third of the esophagus.
4. Deep-seated diverticula, or those in which

the origin of the diverticulum is below the level of the left bronchus.

The probable origin of most cases of pharyngeal diverticula is from remains of the third and fourth branchial clefts. Other congenital defects, trauma, and peripharyngeal inflammatory processes may also give rise to diverticula.

The pressure or pulsion diverticula of Zenker is of the most clinical importance. It originates on a level with the cricoid cartilage, at what is known as the Lanier-Hackermann point on the posterior wall at the junction of the pharynx and esophagus.

Diverticula of the upper third of the esophagus, below the pharyngo-esophageal junction, are rare and belong to the traction or traction-pulsion variety.

The third group described by Leutgert originates on the anterior wall of the esophagus just above the left bronchus. He describes a slight recess in the anterior wall immediately above the point where the left bronchus rests on the esophagus, and attributes the formation of diverticula at this point to the slight obstruction offered to the passage of large boli of food, and the tendency of food to lodge in this recess.

Very few instances of deep diverticula have been reported. They are of special interest to the clinician in that they must be excluded in the diagnosis of esophageal dilatation.

The symptoms of pharyngeal diverticula are similar to those of esophageal diverticula. Dysphagia is less troublesome, and obstruction is rarely sufficient to cause inanition. Cough and dyspnea from the escape of the contents of the sac, or from pressure upon the recurrent laryngeal nerve are the most characteristic symptoms.

The symptoms of diverticula of the esophagus are in the beginning those of gradually increasing stenosis. At first the patient complains of a sense of obstruction in swallowing; later, of the

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regurgitation of small amounts of food at variable periods after eating. As the sac increases in size the symptoms of stenosis become more marked. The lumen of the esophagus is occluded by pressure of the distended sac upon its lateral wall. Further obstruction to the passage of food is caused by a change in the axis of the esophagus. The weight of the food and intra-esophageal pressure elongate the neck of the diverticulum, which comes to lie in the same axis as the upper portion of the esophagus. The opening into the distal portion of the esophagus becomes a slit on the anterior wall at the junction of the neck of the diverticulum and the proximal portion of the esophagus. As the stenosis becomes more marked, inanition becomes extreme and, as a rule, results in the death of the patient. In the large diverticula much mucus is ejected with the food, and occasionally food taken several days previously may be regurgitated from the sac while that taken in the interval is not returned. Pain after eating is a frequent symptom, usually relieved by the ejection of the contents of the sac. In the pharyngeoesophageal diverticula, the sac, as a rule, comes to lie largely on the left side of the esophagus, and when distended is a visible mass much resembling an enlarged left lobe of the thyroid. This prominence is rarely more marked on the right side. The tumor may be made to disappear by pressure upon the sac, forcing the food into the mouth. The patients almost always complain of an irritable cough. The clinical history and the subjective symptoms are usually sufficient to establish the diagnosis of pharyngeoesophageal diverticulum.

The subjective complaints in deep-seated diverticula and cardiospastic dilatation of the esophagus are very similar, and may, in some cases, be identical. It is the necessity of excluding deep diverticula in the diagnosis of esophageal dilatation that makes the methods of their recognition of most importance. In diverticula of the upper portion of the esophagus, a sound, as a rule, encounters obstruction sufficiently high to at once exclude diffuse dilatation. The fundus of a deep-seated diverticulum rests on or near the diaphragm, and a sound is obstructed at the same distance from the teeth as in diffuse dilatation. In either condition the sound, if repeatedly advanced and withdrawn, or inserted on different occasions, may at one time meet obstruction at the diaphragm level, at another time enter the stomach without giving any aid in the differential diagnosis, or, as is

more often the case, in diverticula, the sound cannot be made to enter the stomach. This may also occur in diffuse dilatation (10 out of 50 cases in my series).

Of the methods of objective examination which may be looked upon of importance in making the differential diagnosis, the following will be considered:

1. The skiagraph.
2. Strauss' volume-measure.
3. Rumpel's double sound and its modifications.
4. My own methods of sounding.
5. The esophagoscope.

Most authors make light of the value of skiagraphs, but in our cases of dilatation and diverticula, the position of the shadows and their shapes and relations to the surrounding parts are such that it would be almost impossible to mistake them.

An exact determination of the size of a dilatation is made possible by a method of measuring its volume described by Strauss. For this purpose Strauss employs a stomach-tube at the lower end of which a rubber bag is attached. This is introduced into the lower portion of the esophagus and distended with air, and the amount of air used in its distension is measured. For the differential diagnosis, Strauss now passes the bag into the stomach and inflates again, determining at once that the cavity in which the balloon had been inflated has an opening below communicating with the stomach. As a means of differential diagnosis there are two objections to this method as Strauss uses it: first, the difficulty which is often encountered in introducing the sac into the stomach; second, a sufficient difference in volume will not be noted between small dilatations and the normal esophagus to make the conclusions positive.

Of the other differential diagnostic means, the manifold fenestrated sound of Rumpel has, up to date, been the instrument most frequently employed. All sound experiments are based upon the idea that the liquid contained in a dilatation flows off as soon as the passage through the cardiac opening is made free by such a sound. The diverticulum, however, always remains filled, no matter which position the sound assumes. In Rumpel's experiment a multiple fenestrated sound is so introduced that one window opens into the stomach while the fenestrated portion is lying in the esophagus above the cardiac opening. Now a definite quantity of water is introduced into the sac by a common



stomach-tube. If a dilatation is present one cannot syphon water out of the esophagus, since the liquid has flown off into the stomach through the supracardial opening of the sound. If, however, a diverticulum is present, the total amount of liquid can be syphoned, since the latter is accumulated in the diverticulum. Numerous modifications of this method have been proposed, but all are fundamentally the same. All are dependent upon being able to introduce the sound into the stomach. This is possible in some, but by no means in all cases.

In a paper read before this Association in 1906, I first called attention to the importance of using a silk thread as a guide in esophageal work. The idea of using the thread as a guide in dilating esophageal strictures was, I think, original with Mixer, but had not been employed for other purposes. The patient slowly swallows six yards of silk thread. This passes down through a sufficient number of coils of intestine to prevent its withdrawal on being pulled taut. It is advisable to have the patient swallow three yards in the afternoon and the remaining three yards on the following morning. In this manner the first portion forms a snarl in the esophagus or stomach which passes out into the intestine during the night, the remaining portion passing without snarling. The olives are drilled for threading from the tip to one side of the base. A whalebone staff and olive are used for sounding and for passing the fenestrated tube of Rumpel, Strauss' volume-measure, etc. As the neck of a diverticulum almost invariably lies in an axis with the upper portion of the esophagus, the sound will enter the diverticulum when the thread is loose. When the thread is drawn taut, the sound readily enters the stomach. By first introducing the sound into the diverticulum until it is obstructed and then drawing the thread taut, the sound will be lifted out of the esophagus sufficiently far to bring the olive to a level with the opening into the distal portion of the esophagus. Until this point is reached the sound cannot again be advanced without relaxing the thread. With the olive at the level of the opening into the lower portion of the esophagus, and the thread drawn taut, the sound may now be advanced into the stomach. This method of procedure is sufficient to demonstrate, by positive means, the existence of a diverticulum, and to locate its point of origin. Rumpel's test, or any of its modifications, may be carried out in this same manner with the added definite knowledge of the location of the point of the

tube, and a certainty that it will enter the stomach.

Strauss' volume-measure does not enable us to determine the diameter of the esophagus, but, as its name indicates, is an accurate means of determining the volume of a dilated esophagus. In some cases of periodic cardiospasm, with beginning dilatation of the esophagus, it has been of much aid to determine the diameter of the esophagus above the cardia by means of a sound which I first presented to this society two years ago. This sound is constructed the same as Russell's bag, used for dilating the cardia. A rubber-dam balloon is attached to the lower end of a stomach-tube in such a manner that the tube is closed, and holes are punched in the tube so that its calibre communicates with the interior of the balloon. A spherical or oval silk bag 22 mm. in diameter is drawn over the balloon and fastened to the tube. This is introduced into the stomach with a whalebone staff distended with water under sufficient pressure to make the stylet, tube and balloon form a solid sound. The sound is drawn up to locate the cardia, collapsed, drawn into the esophagus and distended. If, under distension, the sound can be moved freely up and down, it is withdrawn and the silk bag replaced by a larger one. In this way, by using a series of sounds of increasing size, the diameter of the esophagus at any point, and an approximate idea of the shape and size of an existing dilatation, may be obtained. The demonstration of a sac by this method is also proof that the sac is a dilatation and not a diverticulum, provided the sound is first introduced sufficiently far to give assurance that it has entered the stomach.

The esophagoscope has proved of great value in the study of primary and secondary cardiospastic dilatation of the esophagus. We have made a practice of making esophagoscopic examinations in the cases of diverticula but cannot say that it has added much to the information otherwise obtained. In the study of cardiospastic dilatation, the esophagoscopic examination should never be omitted if the condition of the patient will permit of it.

The six cases of esophageal diverticula which have come under my observation I have reported in this paper. Five of the cases belonging to the pharyngeo-esophageal group have been operated upon by Dr. Charles Mayo.

A report of the cases follows:

CASE 1.—Male, single, 33 years of age; previous history, negative, except for pneumonia five years ago. In January, 1902, he first noticed a sense of obstruction to the passage of food, which he locates beneath the lower end of the sternum. A few months later small amounts of food were occasionally regurgitated either during or soon after a meal. Since the end of the second year, there has not been much increase in the severity of the complaint. Obstruction to the passage of an olive is encountered 20 cm. from the incisor teeth. Slight bulging is noticeable a little to the left of the median line, midway between the cricoid cartilage and the upper border of the sternum. A radiograph was made after giving the patient two ounces of subnitrate of bismuth in mucilage of acacia. In the radiograph a shadow of the bismuth shows a spherical sac one inch in diameter, in the median line and about midway between the cricoid cartilage and the sternum.

Diagnosis: Pharyngo-esophageal diverticulum.

In this case an operation was advised; but the patient refused it.

CASE 2.—Male, married, attorney; has complained of dysphagia of increasing severity for 12 years. The food comes up soon after eating, occasionally a half ounce at a time. Coughing spells cause the regurgitation of food and occasionally the vomiting of sour food. His general health is not impaired. The patient calls attention to the presence of a bulging in the neck, above the left sterno-clavicular articulation, which is increased in prominence by taking a drink of water. A portion of the water is ejected into the mouth by sudden pressure upon this prominence. Sounds meet obstruction 19 cm. from the incisor teeth. A bent sound can be made to pass the obstruction with a little manipulation. The radiograph shows a pear-shaped shadow 13 by 14 cm. in diameter, two-thirds of which is to the left of the median line. The lower border of the shadow is on a level with the upper border of the sternum.

Diagnosis: Pharyngo-esophageal diverticulum.

This patient was to return for operation, but failed to do so.

CASE 3.—Male, 56 years of age; has had slight dysphagia and an irritable cough for eighteen months, and the regurgitation of food and mucus for the past fourteen months. The interference with the taking of food has caused the loss of ten pounds in weight. A prominence is visible above the sternal end of the left clavicle. This is increased in size by drinking water, and pressure upon the sac will cause the ejection of water into the mouth. Obstruction to the passage of a sound is met 23 cm. from the teeth. A radiograph shows a shadow the shape and size of an egg, the lower border of which is one-half inch below the upper margin of the sternum. Operation, April 8, 1908.

CASE 4.—Male, single, is 45 years of age; gives a history of five years of gradually increasing dysphagia. The complaint was periodic during the first year. During the last four months the act of swallowing has been accompanied by pain in the upper portion of the esophagus. The first few mouthfuls of food seemed to go down all right; later there is a sense of obstruction and the remaining portion of the meal is taken with difficulty. Much of it is immediately regurgitated. Portions of the previous day's food are frequently regurgitated. If he takes food later than 3 P. M., an

irritable cough prevents sleep. A radiograph demonstrates a spherical sac one and one-half inches in diameter, the greater portion of which is on the left of the median line of the neck. The upper portion of the sac is on a line with the cricoid cartilage. Obstruction to the passage of a sound is encountered 20 cm. from the teeth. A sound with a Mercier tip can be passed on into the stomach.

Diagnosis: Pharyngo-esophageal diverticulum. Operation, June 9, 1908.

CASE 5.—Male, traveling salesman, married, is 60 years of age. For two years food has invariably lodged in the throat while eating and comes up at irregular periods after meals. He loses much sleep because of coughing brought on by the regurgitation of small particles of food. A radiograph shows a sac 3 cm. in diameter in the median line, just below the cricoid cartilage. Sounds invariably passed without encountering any obstruction. An esophagoscopy examination failed to reveal any opening into the sac. Operation, June 8, 1908.

Cases 3, 4 and 5 were operated upon by Dr. C. H. Mayo. In each case the sac was excised, the neck of the sac inverted, and the wound closed without drainage. Infection did not take place in any of the wounds. In each case all evidence of dysphagia disappeared within two weeks after the operation.

CASE 6.—M. J. H., attorney, married, 55 years of age; family history, negative. He was not a very strong boy, but became so while in college, and from then on has been a man of unusual good health, with the exception of pneumonia three and one-half years ago. Eleven years ago he first noticed the occasional regurgitation of small amounts of food soon after eating. Gradually the dysphagia became more marked. Within the last three years the dysphagia has been extreme. He has lost from 130 to 90 pounds. During the past year a large part of his time has been consumed in ingesting sufficient food to keep him alive. For ninety days he has been confined to bed by inanition. A general examination is negative except for emaciation. The urine contains a trace of albumin and a few hyaline casts. Just above the sternal end of the left clavicle there is an ill defined fullness much resembling a vascular goitre. Upon attempting to swallow more than four ounces of water, it is regurgitated through the nose and mouth. Pressure upon the prominence above the clavicle forces water and food remnants into the mouth. At every attempt to pass a sound, it is arrested 25 cm. from the teeth. The skiagraph clearly defines the shape and position of the sac, but not the point at which it communicates with the esophagus. The esophagoscope is easily introduced, and a good view of the wall of the sac obtained, but not of the opening into the lower portion of the esophagus. The patient's condition made the immediate removal of the sac out of the question, and the first indication that of nourishment, by the mouth if possible, if not through a gastrotomy opening. Repeated attempts at passing a sound were all unsuccessful. After several attempts covering a period of two weeks, a silk thread was passed through into the intestines. A stomach-tube was then easily passed on the thread. During the next three weeks he was fed through the tube twice a day. He gained 15 pounds and was able to take long walks. He was operated upon by Dr. Charles Mayo on April



4, 1908. The sac was excised, and the neck of the sac was sutured to the external wound. The opening into the sac was not invaginated and closed because of the man's poor vitality, and the fear of infecting the anterior mediastinum. During the first few weeks there was some annoyance from the escape of food through the sinus, which completely closed at the end of three months.

#### DISCUSSION

DR. W. J. MAYO (Rochester): I do not intend to discuss this paper more than to express my extreme interest in this work as it has progressed. Dr. Plummer has had in his care all of these cases. They have been operated on by my brother, Dr. Charles H. Mayo, so I do not know much about the operation in detail. The thing I would call particular attention to is this floating thread and the results obtained in ascertaining the existence of cardiospasm, and also esophageal diverticula, to which Dr. Plummer referred. Cardiospasm is more common than we supposed, and many cases which we thought were carcinoma of the esophagus in times past, and who died unrelieved as a result, were really cases of cardiospasm, and were curable.

Twelve years ago a physician who is present brought me a case upon whom I did a gastrotomy, a case which was supposed to be carcinoma of the lower esophagus. We sent her home to die, but she refused to do so. She wore the tube and is still alive and well. We have had a number of such cases. I think there is a percentage of obstructions at the bottom of the esophagus

that are very liable to be mistaken for malignant disease, and we must not assume, as I did years ago, that most of these cases are malignant.

Within the last three or more years, Dr. Plummer has been able to dilate and cure somewhat over forty cases of cardiospasm. Of the patients who come to us with obstruction in the lower end of the esophagus, probably twenty per cent were not malignant, and we must not associate these cases with malignancy, as we have done in the past.

DR. WM. LERCHE (St. Paul): This question that Dr. Plummer has taken up of late years has also interested me very much. Dr. Plummer has a very ingenious instrument, and I would like to ask a question about it with regard to or in connection with cardiospasm, as mentioned by Dr. Mayo. Pardon my digressing from the paper. He reported six cases of cardiospasm in which there was angulation of the lower end of the esophagus, in which he found the way into the esophagus with this sound.

I would like to ask the doctor where the angulation was in those cases, whether it was above the diaphragm or below the diaphragm.

DR. PLUMMER (Essayist): The questions which Dr. Lerche asks I am not prepared to answer at the present time. I am satisfied that angulation was at least one of the factors which entered into the difficulty experienced in passing sounds in the six cases mentioned in the paper to which he referred. Esophagoscopy examinations were made in three of these cases without throwing any light on the question.

## APPENDICITIS AS A COMPLICATION OF PREGNANCY AND THE PUERPERAL STATE\*

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Appendicitis as a complication of pregnancy and the puerperal state has, of recent years, been attracting considerable attention on account of its comparative frequency, the more than usual severity of the attacks, the unusual symptoms present, the difficulty of diagnosis, and the excessive dangers to mother and child.

The earliest case mentioned is that of Hancock, in 1848. He reported a case of perityphlitic abscess during pregnancy, which he incised and drained. This is referred to by Coe<sup>1</sup>. Wiggin<sup>2</sup> reports a case occurring in his practice of suppuration on the right side during pregnancy. Operation was not performed, and the patient died.

In 1894 Paul F. Munde<sup>3</sup> reported a case of pregnancy where the patient had pain and tenderness over the entire lower abdomen, "atro-

cious pains" in the pelvis, and a pronounced chill. She miscarried the following day, the child being dead, and six days later a cecal abscess was opened and drained, and the patient made an uneventful recovery. About the same time Thomasson<sup>4</sup> reported a case somewhat similar to that of Munde, and Munde casually reports a case of abscess over the appendix in a pregnant woman seen twenty years before. Since the initial cases a considerable number have been reported and as complete a bibliography as possible is appended.

Appendicitis as a complication of pregnancy may be either primary or recurrent, and in both instances it is of the same nature as attacks of appendicitis in the non-pregnant female. Primary appendicitis is somewhat rarer in the pregnant than in the non-pregnant woman, or, as is probably the case, it has been observed less often, as pains and tenderness occurring in preg-

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



nant women are most often referred to the uterus.

Opitz<sup>5</sup> believes that pregnancy exerts an inhibitory influence upon not only primary but recurrent cases, an opinion that will probably prove erroneous in both classes of cases. Further statistics will no doubt show that so far as primary attacks are concerned there is no influence to speak of either way, but as yet no causal relation has been established. Where there has been a primary attack of appendicitis, however, before the inception of pregnancy, the possibilities and the dangers of a recurrence are enormously increased. The increased blood-supply to the organs of the pelvis, the pressure of the growing uterus, the stretching of the cecum, and the movements of the child are active factors in producing, not only a recurrence, but an exaggeration of, the first attack. Recurrent cases in pregnant women are not inclined to follow the type of the primary attack, but are often of a more severe character. Ulcerative cases with perforation and abscess-formation are more prone to occur. After abscess-formation various complications may ensue, the most common of which is miscarriage from septic endometritis, either before or after operation. If miscarriage occurs before operation the dangers of rupture of the abscess are largely increased. The right ovary and tube are frequently involved and there is sometimes abscess of the uterine wall, general septic metritis, abscess of the left ovary, or abscess under the liver.

Diagnosis is usually rather difficult owing to the habit of referring any pain or tenderness to the uterus. Right-sided pain almost invariably arises from a diseased appendix. Pain on the left side or on both sides or under the liver may be from the appendix, and tenderness of the lower abdomen or on the right side may be from the same source. The vomiting of appendicitis may be mistaken for the vomiting of pregnancy. If the patient gives a history of previous attacks the probabilities favor a recurrence.

The treatment of these complicated cases does not differ essentially from the treatment of appendicitis in the non-pregnant woman. As a matter of prophylaxis an attack of appendicitis in a woman who may, in the near future, become pregnant should always be regarded as a source of future danger, to be avoided only by the removal of the offending organ before a more severe attack can ensue. This is of course true in any instance, but the fact that there may be pregnancy in the future puts a greater obliga-

tion on the surgeon to insist upon early operation. After pregnancy is established the mild cases may be carried through to labor if possible, and then a suitable time selected for operation. If, however, the tenderness persists, if there be any swelling in the cecal region, or if the case be one of perforation and abscess-formation the conditions are imperative for operation without unnecessary delay. Time and absence of meddlesome handling of the abdominal contents are two cardinal points to be observed in operating.

As regards frequency of abortion: In a series of 121 cases Myer<sup>6</sup> has found that 57 per cent of the unoperated cases, of which there were 52, aborted with death to 32 per cent of the mothers and 60 per cent of the children, while only 37 per cent of those operated upon, 69 in number, aborted after the operation. Fellner<sup>7</sup> found that abortion occurred in 35 per cent of his operated cases and in 44 per cent of the unoperated cases.

In connection with operative measures the question has come up as to whether artificial abortion should be performed or not. Webster<sup>8</sup> states that Marx advises artificial abortion and immediate operation, and he agrees with Marx. I regard this as a useless and highly dangerous procedure,—useless because, in any instance, it can do no good, as Stähler<sup>9</sup>, in a review of 111 cases, found that 38 per cent of all cases went to normal delivery; and highly dangerous because the uterine contractions are more than liable to rupture the abscess walls and cause diffusion of the septic contents. Either reason ought to condemn it. Artificial abortion should not be performed after operation unless the fetus is dead and then only after a sufficient period has elapsed to minimize the danger of rupturing the fragile abscess walls. It is advocated when there is septic metritis or when there are uterine contractions, but these seem insufficient reasons for extensive interference.

The only case of appendicitis occurring during pregnancy in my practice was in a multipara aged 26. There was no history given of previous attacks. One brother had perforative appendicitis, and was operated upon and died; a second brother and a cousin had been operated upon for appendicitis at the Detroit Hospital a few months previously and she readily consented to operation, which was at that time reluctantly advised on account of pregnancy two months advanced. A rather large appendix was removed, and seven months later she was delivered without any untoward event.

Appendicitis occurring during the puerperium may be either primary or recurrent. Hilton<sup>10</sup> has reported 29 primary cases, some of which are mentioned by Myer, who reported altogether 22 cases. It is needless to say that this complication is most perplexing and often very difficult of diagnosis, being usually mistaken for puerperal sepsis. After the discoveries of Holmes, Semmelweis, and others regarding the causation of puerperal sepsis from dirty hands and instruments it became the common opinion that all cases of puerperal septicemia came from without, and it is more than likely that many such cases were attacks of appendicitis and that blame has been given to many physicians where none was due. My own case illustrates this point. The woman, aged forty-four, had been married at thirty-eight and was the mother of two children. At her first confinement both cervix and perineum were lacerated and were not repaired. Her second confinement was conducted by a colleague in my home town. Labor was hard and was followed by various symptoms of pelvic sepsis, such as pain, tenderness over the uterus, high fever, and exhaustion. Her recovery was protracted with no occurrences of moment. Her third confinement occurred last April. Labor was easy and she was delivered of a male child, weighing eight pounds, at 5:30 Tuesday morning. The following Friday at 3 P. M. she had a violent after-pain and expelled a large clot. She shortly complained of tenderness over both ovaries, and at midnight she had a severe chill followed by a temperature of 105°. There was pain and tenderness over the entire lower abdomen, and it was thought at first that the after-pain of the day previous had forced a small amount of septic material through the tubes into the peritoneal cavity. The temperature gradually fell to 103° until the eighth day after confinement when the patient began to have a profuse foul-smelling diarrhea, and the temperature fell to 101°. Examination of the abdomen, which had been extremely painful was now permitted. A small tender mass over the appendix was easily palpated; otherwise the abdomen was normal. The diagnosis was changed from puerperal infection to perforative appendicitis with abscess and spontaneous cure by rupture into the bowel. The patient slowly convalesced and still declines operation. One cannot but feel that the spontaneous rupture was most timely, as otherwise it is quite likely that the patient would have died without a correct diagnosis being made.

In Scanlon's<sup>11</sup> case the patient had pain in the

back and in the right side during the last two months of gestation. After confinement a small necrotic area was noticed on the maternal surface of placenta. Three days later there were chill, fever, and tenderness over the lower abdomen. A diagnosis of puerperal infection was made. On examination of the cervix there was found to be a flow of fecal pus, the tenderness was found to be confined to the right iliac region, and a revised diagnosis of appendicitis was made.

Appendicitis may be a cause of subinvolution, as found by Calmann<sup>12</sup> in two cases. Appendectomy was performed and the uterus returned to normal.

In closing I desire to emphasize the following points:

1. Appendicitis as a complication of pregnancy, and the puerperium is of frequent occurrence and is often overlooked.
2. Recurrent appendicitis is more likely to occur in the pregnant than in the non-pregnant woman on account of local exciting conditions.
3. The pregnant condition should not deter nor defer operation where it would be indicated in ordinary non-pregnant cases.
4. Abortion occurs oftener in the non-operated than in the operated cases.
5. Diagnosis of the complication is difficult, especially during the puerperium, being most often mistaken for puerperal infection.
6. Artificial abortion should never be induced before operation. When operation has been performed, after a suitable time has elapsed, it may be performed in case of death of the fetus or of septic metritis.

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## DISCUSSION

DR. H. J. O'BRIEN (St. Paul): The paper of Dr. Weeks is so complete that it is difficult to add anything to it. I think he should be warmly congratulated for his advanced scientific and common-sense discussion of this subject. This Association should certainly be congratulated that it has a member who can so simply, so honestly, and so concisely map out our duties in appendicitis complicating pregnancy.

We should exclude the term "catarrhal appendicitis" entirely. It is a misnomer. Appendicitis is always a bacillus infection and is a surgical disease first, last, and all the time. Appendicitis in any form is always a dangerous condition because none of us can say when a mild infection will develop into a fulminating infection. Appendicitis complicating pregnancy is an added reason for the removal of the appendix at an early stage whenever possible. The infection of the appendix, together with the sepsis accompanying it, sometimes produces abortion, but the more mechanical removal of the appendix, of itself, never does produce abortion.

DR. A. A. PINE (St. Paul): I was very much interested in the doctor's paper, as I had a similar case last week. Last Saturday afternoon I was called to see a woman who was a stranger to me. She had been confined about three weeks before and had been attended by a midwife. Confinement was normal, if not easy, as near as I could make out the history of the case, and she had been up three days. On Sunday night she was taken with a severe chill and was very sick, but better in the morning, with another chill in the afternoon. She had fever all along, but they did not send for me until Saturday afternoon, a week from the time she was taken sick. I found acute appendicitis, and decided, from the history she gave, that it was recurrent. She told me she had had pain in her right side during pregnancy. She was operated on Saturday night and is at present nursing her baby and doing well.

## BOOK NOTICES

INTERNATIONAL CLINICS, Vol. III, 1908 (Eighteenth Series). J. B. Lippincott Company, Philadelphia and London.

This volume of *International Clinics* includes the usual wide range of topics and contains several unusually interesting articles. Almagia and Mendes report two cases of tetanus treated with cholesterin, administered hypodermatically, with a cure in each instance. J. A. Scott has an excellent article on Perforation in Typhoid Fever and T. A. Williams treats, rather extensively, of the nature and therapeutics of hysteria. An instance of the very rare condition known as myositis ossificans progressiva is reported by Dr. Walker, and an article on the Etiology of Appendicitis

by Dr. Kretz of Prague closes the volume.

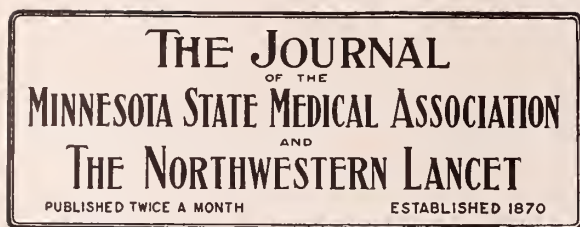
Vol. IV, 1908 (Eighteenth Series). This volume opens with an article on Physical Therapeutics by Dr. Pratt of Boston calling deserved attention to various forms of physical treatment. Mention is made of the fact that there are now in operation in Boston and Philadelphia non-commercial hydrotherapeutic institutes where any physician can avail himself of the facilities offered, and no patient is treated except on prescription from a doctor. Psychotherapy also is discussed by Dr. C. D. Palmer. Among several articles on surgery, that of Dr. Vaughan on Fractures of the Skull is worthy of special comment as is also that of Dr. Albert G. Nicholls on Acute Dilatation of the Stomach among the articles devoted to medicine. The role of hypertrophied tonsils in the etiology of disease is fully considered by Dr. Scarlett and a very full statement on the Serum Treatment of Cerebrospinal Meningitis is given by Dr. C. H. Dunn.

## THE POINT OF VIEW IN MEDICINE

Beverly Robinson, of New York, finds that a few men have skill, training, experience, and common sense, with mental balance and rectitude of purpose that make them leaders in the profession. Some influenced by the French school regard everything as a result of some constitutional dyscrasia, while others with the Germans lean too much to the use of solely local remedies. Physical methods of research are valuable, but they do not teach the vital questions; neither do the newer laboratory methods. Test meals of a roll and tea do not do as much for the patient as good cooking and food properly prepared and served. The laboratory must be subservient to older, more reliable clinical methods. Much is still unrevealed and must pass as functional until we know more. Success in the fight against disease means progress in civilization and healthful living for all men. Alcoholism and prostitution must be combated by proper regulation, since they cannot be eradicated.—*Medical Record*, May 8, 1909.

The prognosis in tuberculous diseases of bones and joints in children has been improved more by the practical application of the fresh-air treatment than by any other means. The next step in surgical enlightenment is to apply the same treatment to other surgical disease.—*American Journal of Surgery*.





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JUNE 15, 1909

## THE COLONIZATION OF THE TROPICS

The recent acquisition of tropical and semi-tropical possessions has brought the United States face-to-face with problems hitherto unknown.

Much has been done in recent years in the study of yellow fever, malaria and cholera, and it is only a matter of time before these diseases will be practically stamped out; but there still remain many problems for the white man to solve before he can live and thrive in the torrid zone. It is a well-recognized fact that northern men subjected to tropical conditions, show a curious reduction of resistance to disease, and in many instances it seems as if recovery would not take place at all were the patient to remain in the alien climate. So far, no northern type has been discovered which can live indefinitely, and propagate and rear children in the tropics. Why should this be? Do northern people ever become acclimated to the tropics? If not, why not? Again: Why are the tropical races small of stature and dark of color, while the more northern men are tall and fair? It is a matter

of observation that undersized, dark men stand tropical life better than their taller, fairer brothers.

In the New York Medical Journal of May 22d, Major Charles E. Woodruff, in one of his usual able and thoughtful papers, states that these are problems of interest in many ways to physicians, and for their solution he urges on the medical profession the study of anthropology. He points out, among other things, that, whereas in the north, where retention of body heat is a necessity, overweight is an advantage, in the south, where radiation is the great desideratum, it is a decided detriment. In the United States, which is really much nearer the tropics than is usually recognized, and which is peopled largely by men from more northerly climates, life-insurance statistics show that the same conditions prevail.

Another interesting fact to which he calls attention is the difference in the size of the nasal apertures in northern and southern races. In the south, where the air is heated and expanded, the nasal cavities are large; whereas in the north, where a given amount of cold air contains much more oxygen, the nasal openings are small and narrow. Is this difference the cause of the susceptibility to tuberculosis of the negro in the north, and does it also furnish a clue to the incurability of the same disease in white men dwelling in the tropics?

The rapidity and virulence of tuberculosis in blonde immigrants is a matter of record, as is also the incurability of the disease in white men in the tropics. Does this explain why certain types of patients do well in the north, while others improve in the south? What types should go to one and what types to the other place?

This is a point of considerable practical importance, especially to some southern tuberculosis resorts, one of which, we are told, spends \$25,000 a year burying pauper consumptives sent from the north, while the county in which this town is situated is taxed \$65,000 for the same purpose. If it were found, for instance, after investigation that decided blondes do poorly in southern latitudes, what a saving of life and money there would be! A careful record of data in regard to complexion, stature, physique, etc., would be of much assistance in the settlement of these questions.

There are many other problems, the answers to which can be furnished only by men of scientific training and methods of thought who are living and working in the tropics. All that is necessary is that their efforts be properly direct-

ed, and such papers as Major Woodruff's not only awaken interest and stimulate thought, but, as well, point out the lines along which efficient work may be done.

## THE FRUITS OF ANTIVIVISECTION EXPERIMENTATION

Not much is heard in Minnesota of antivivisection in the form of an organized movement. As an expression of personal opinion, however, it is frequently encountered, and physicians are often called upon to defend the practice. Every up-to-date physician is more or less familiar with the debt which medicine owes to experimental work with the lower animals, but few of us realize how very great the debt is, and how quickly that which is at first regarded as mere theory finds a practical application. In an article in Harper's Magazine on recent surgical progress, Dr. Keene has not only recorded some exceptionally interesting things in regard to modern surgery, but he has stated in so concise a manner the debt we owe to experimental research that his conclusions seem worthy of reproduction. They are as follows:

### WHAT THE FRIENDS OF EXPERIMENTAL RESEARCH HAVE DONE

1. They have discovered antiseptic surgery, and so made possible the wonderful results of modern surgery. To complete his beneficent work, Lord Lister was compelled to go to France by reason of the stringency of the English antivivisection laws.

2. They have made possible practically all modern abdominal surgery, including operations on the stomach, intestines, liver, gall-bladder, pancreas, spleen, kidneys, etc.

3. They have made possible all the modern surgery of the brain.

4. They have demonstrated how lockjaw spreads from the wound; how sometimes it can be arrested and cured; and, still better, how it can be prevented, so that practically tetanus has been banished from surgical operations.

5. They have reduced the death-rate in compound fracture from sixty-five per cent to less than one per cent.

6. They have reduced the mortality of ovariectomy from two out of three to two or three out of one hundred.

7. They have abolished yellow fever.

8. They have made possible the cure of nearly all cases of hydrophobia.

9. They have cut down the mortality of diph-

theria in New York City alone from 158 deaths per 100,000 in 1894 to 38 per 100,000 in 1905, and practically the same story is told all over the world.

10. By the use of the serum recently discovered by Flexner at the Rockefeller Institute they have changed the mortality in cerebrospinal meningitis from seventy-five per cent and even ninety per cent to thirty-five per cent or less.

11. They have shown the cause of acute tetany after operation for goiter, so that it now can be prevented.

12. They have almost completely abolished the dangers of maternity, reducing its death-rate from ten or more mothers out of every hundred to less than one in every hundred.

13. They have shown the cause and the method of propagation and of prevention of the deadly malaria which devastates whole regions and armies. Its extinction is only a matter of time.

14. They have reduced the mortality of tuberculosis by from thirty to fifty per cent, for Koch's discovery of the tubercle bacillus is the foundation-stone of all modern progress in the treatment of tuberculosis.

15. They have enormously benefited animals by discovering the causes and the dangers of tuberculosis, Texas fever, anthrax, glanders, hog cholera, and other infectious diseases of animals, thus enabling us to combat them more successfully or even to prevent them.

### WHAT THE FOES OF RESEARCH HAVE DONE

Nothing but to stand in the way of progress. Not a single human life has been saved by their efforts; not a single household made happy; not a single disease has had its ravages abated or abolished.

The victims of their sincere but misguided zeal are men, women, and little children. Even the lower animals may well cry, "Save us from our friends."

## ELECTRIC VS. GAS LIGHTING

For some months past the city of Minneapolis has had a controversy with its electric and gas companies. It has succeeded in gaining a material reduction in the price of electric lights, for both public and private use, and it proposes to renew the gas company's franchise only upon more favorable terms than those of the old franchise.

Our interest in the two controversies centers only in the relative prices obtained, for upon this relation hinges a more important matter than that of the total sums involved.

It seems indeed strange that both physicians and sanitarians have so long overlooked the danger to health in the use of illuminating gas, a danger that cannot be denied and one which has been very materially increased within a few years. The incandescent mantel is now in quite general use, and had it not been discovered it is quite probable that gas could not now compete with electricity as an illuminant. As every intelligent person knows, a heat sufficient to render a metal incandescent is gained only by a proper combination of oxygen and the illuminating gas, which means that the life-giving oxygen of the living or sleeping room is so depleted by one or two of these mantels as to render the room practically unfit for habitation. The heat of a Welsbach gas-lamp will fuse porcelain, and it is so intense as to raise the temperature of an ordinary living room several degrees within a few minutes after the lighting of the gas. This increased heat is a great discomfort, and is in itself very detrimental to health, because the increase in temperature is generally at or near the top of the room, thus putting one's head in air of a much higher temperature than that of the air near the floor, which reverses recognized healthful conditions.

It is well known that many house-plants cannot be kept in a healthful condition, or even kept alive, in a gas-lighted room; and yet in spite of these undisputable facts, and in spite of the great discomfort attendant upon the use of gas, a slight difference in the cost of the two keeps gas in well-nigh universal use in all cities.

We think it would be no exaggeration whatever to say that the use of gas as an illuminant in Minneapolis is causing far more sickness and, indirectly, far more deaths than the use of unfiltered river water, about which the city has made so much stir. It goes without saying that the decreased vitality and consequent sickness from the use of gas fall to the lot of the well-to-do, who suffer in ignorance.

In spite of the fact that the use of gas destroys the oxygen of a room, all gas companies send out the most enticing advertisements to induce people to use gas heating-stoves for rooms which may not be sufficiently heated by one's furnace. They are somewhat better than a charcoal-stove with no out-of-door connection, but the latter is not yet in much favor for heating purposes.

On the actual relative cost of the two modes of lighting a residence we are not posted, but we believe that by using the new tungsten lamps

(bulbs) and by a fair degree of care in keeping lights turned off when not needed, the cost of electricity is only a small per cent greater than that of gas.

It is to be regretted that the electric light companies do not furnish free, or at actual cost, the new lamps, which give a much higher candle-power than the ordinary lamps, and upon a considerably lower consumption of electricity; for such a course would bring electricity into more general use.

### HEALTH HINTS

The attitude of the public and the lay press toward medicine and medical men has been markedly changed within a few years, and it seems safe to say that the physician of tomorrow will occupy a position never conceded him in the past. His disinterested and scientific work in behalf of the public cannot fail much longer to receive proper recognition. Already the work done at Panama by medical men is recognized by many as much greater than that done by the engineers, even though their work is surprising the entire world.

Many able lay journals are now giving much space to medical men and medical matters, and some of them recognize the true relation of the physician to both the individual and the public. Some of these journals have entered heartily into the "white plague" crusade and similar local movements for the betterment of health conditions, and their influence cannot be resisted either by the indifference of the masses or the opposition of interested groups of men, such as is found among politicians or tax-resisting wealth.

Among the lay journals to give their influence in this direction is the Pioneer Press of St. Paul, which has long been the ablest edited journal in the Northwest. This paper is now publishing a "Daily Health Hint," which is brief, comprehensive and helpful. The subjects treated are well selected and uniformly well treated.

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## NEWS ITEMS

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### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. J. G. Kennedy, formerly of Elkton, S. D., has located at Milbank.

Dr. J. J. Mertens has moved from Lebanon, S. D., to Gettysburg, S. D.



Dr. Irving C. McDonald, of Minneapolis, has gone to Europe for special study.

Work has been begun on the Spooner (Minn.) Hospital, and the building will be rapidly pushed to completion.

Dr. H. D. Dudley, who has been in Cananea, Mexico, for two or three years, has moved to Medford, Oregon.

Dr. Wm. R. Murray, of Minneapolis, has gone to Vienna to work in the hospitals, and will be absent during the summer.

Dr. E. O. Voyer, of Minneapolis, has returned from New York and Johns Hopkins, where he has been doing special work.

Dr. H. W. Froelich, of Pine City, has become the physician of a large mining company at Hibbing, and has moved to that city.

Dr. W. A. Jones, the editor of THE JOURNAL-LANCET, is home from a visit to Europe. He gives an account of his wanderings on another page.

The other day the friends of Dr. Knut Hoegh, of Minneapolis, celebrated at a banquet the fortieth anniversary of Dr. Hoegh's practice of medicine.

Dr. E. A. Meyerding has been appointed medical inspector of the St. Paul schools. Miss Agnes Rice was appointed visiting nurse for the schools.

The Alaska-Yukon Exposition is now open at Seattle. A room in the Emergency Hospital has been set aside for visiting physicians, and they may have their mail addressed to them at this building.

Dr. W. W. Mayo, of Rochester, celebrated his ninetieth birthday on June 1. Dr. Mayo was born in Manchester, England, in 1819, and came to America in early life. He came to St. Paul in 1854, and took an active part in pioneer life.

Dr. W. F. Coon, of Minneapolis, formerly of Elysian, has formed a partnership with Dr. T. A. Stevens, of Caney, Kansas, who has a very large practice at that place. Drs. Stevens and Coon will open a hospital to meet the needs of their work.

Dr. A. M. Giffin, of Rapid City, S. D., has been appointed, after a competitive examination, a first lieutenant in the medical reserve corps of

the United States. He and Dr. F. E. Ashcroft, of Deadwood, are the only men in South Dakota to hold the commission.

The story printed in the daily papers to the effect that Dr. G. L. Hatch, of Owatonna, desired to end his life because of his sickness, and that he asked permission to do so, was a disgraceful fabrication of a smart reporter. Dr. Hatch is much improved in health.

Dr. William L. Steele, of Helena, Montana, died last month at the age of 76. He was a very early settler in Montana, and was a man of wide influence. As judge of the citizens' court to try outlaws, at a time when there were no organized courts, he condemned several men to death. He was mayor of Helena three times.

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[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### PRACTICE FOR SALE

A well established medical and surgical practice that pays \$6,000.00 cash annually without sending out a single statement, in county seat town of 3,000 population, in Southern Minnesota, in richest agricultural section of the state; German predominating. Competition is the kind you want. Do not answer unless you have money and can furnish references. Address S. B., care of this office.

#### PHYSICIAN WANTED

Excellent opening in a North Dakota town on the Soo Line for a Scandinavian doctor. No competition nearer than 16 miles. This is an opportunity worth looking up. Address R. N., care of this office.

#### AUTOMOBILE FOR SALE

A Victor Runabout with convertible seat; 14-16 H.-P.; air-cooled; 34-inch wheels; solid tires; friction transmission; double-chain drive; used about one month; all in good running order. Good reason for selling. Address W. M., care of this office.

#### AUTO FOR SALE

A Holsman No. 3; ran one season; leather top with storm front and side wings; Prestolite tank and Solar gas lamp; new Diamond tires; full equipment of tools; two brass kerosene lamps, tail-lamp, and horn. Guaranteed in first class condition. Will consider trade on touring-car. Address Dr. W. P. Lee, Fairfax, Minn.

#### POSITION WANTED IN HOSPITAL

A woman who has been in charge of a small hospital several years desires an engagement as manager or head nurse. Speaks Scandinavian. Address, E. B., care of this office.

A doctor would like to dispose of a small drug store in Northern Minnesota, in a mill town; doctor is overworked and therefore would like to sell his drugs out to some good druggist; two doctors in town. Address O. S., care of this office.

The books, operating-table, electric battery, and other instruments; and some drugs of the late Dr. Duncan, of Fergus Falls, are offered for sale at moderate prices. For information address Mrs. W. T. Duncan, Fergus Falls, Minn.

A physician, graduate, June, 1908, with good surgical experience during the past year, desires a position as assistant to a surgeon or general practitioner during the summer. Good references. Some remuneration desired. Address K. M., care of this office.

A \$3,000 to \$5,000 practice in Northern Minnesota town,—county seat; railroad; agricultural country; large

*Stenographic Work.*—Miss B. Clement solicits the stenographic work of physicians. Work done neatly, and medical terms spelled correctly. Tels., N. W. Main 669; T. S. 1887.

## REPORTED FROM STATE INSTITUTIONS FOR MONTH OF MARCH, 1909

[illegible]

## REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF MARCH, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child-en	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	6			2											1
Anoka.....	3,769	4,053	7	1			1										1
Austin.....	5,474	6,489	9			2											
Barnesville.....	1,326	1,566	0														
Bemidji.....	2,183	3,800	7	1		1											
Blue Earth.....	2,900	2,364	3														
Brainerd.....	7,524	8,111	11		1												
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	2	1													
Cloquet.....	3,074	6,117	4				1										
Crookston.....	5,359	6,794	9	1	1	1								1		1	
Detroit.....	2,060	2,149	5					1							1		
Duluth.....	52,968	64,942	78	11	4	9			1				1	5	1		
E. Grand Forks.....	2,077	2,481	1														
Ely.....	3,712	4,045	4	1				1									
Faribault.....	7,868	8,279	4	1													
Fairmont.....	3,440	2,955	3														
Fergus Falls.....	6,072	6,692	4	1													
Granite Falls.....	1,214	1,340	*														
Hastings.....	3,811	3,810	*														
Hutchinson.....	2,495	2,489	0														
Jordan.....	1,270	1,311	2														
Lake City.....	2,744	2,877	7														3
Litchfield.....	2,280	2,415	2														
Little Falls.....	5,774	5,856	2														
Luverne.....	2,223	2,272	0														
Le Sueur.....	1,937	1,842	3	1		1											1
Madison.....	1,336	1,604	0														
Mankato.....	10,559	10,996	11	2		1											
Marshall.....	2,088	2,243	0														
Melrose.....	1,768	2,151	*														
Minneapolis.....	202,718	261,974	300	28	10	54	1	7	5				1	10	5	16	3
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	2														
Moorhead.....	3,730	4,794	9		1			2	1	1							1
Morris.....	1,934	2,003	4			2											2
New Prague.....	1,228	1,419	2	1													
New Ulm.....	5,403	5,720	5			1						1					
Northfield.....	3,210	3,438	5			1											3
Ortonville.....	1,247	1,612	0														
Owatonna.....	5,561	5,651	4														1
Pipestone.....	2,536	2,885	4						1								
Red Lake Falls.....	1,885	1,797	1														
Red Wing.....	7,525	8,149	7			1											
Redwood Falls.....	1,661	1,806	1														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	17	3		1											4
Rushford.....	1,100	1,133	1														
St. Charles.....	1,304	1,238	*														
St. Cloud.....	8,663	9,422	6	2													
St. James.....	2,607	2,320	2														
St. Paul.....	163,632	197,323	220	28	3	25	4	11	5				1		4	20	
St. Peter.....	4,302	4,514	3			3											
Sauk Centre.....	2,220	2,463	0														
Shakopee.....	2,046	2,069	3												1		
Sleepy Eye.....	2,046	2,312	2			2											
So. St. Paul.....	2,322	3,458	5			3		1									
Stillwater.....	12,318	12,435	12	1		1											
Thief River Falls.....	1,819	3,502	*														
Tower.....	1,366	1,340	3	1		1		1									
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	12			3											
Wabasha.....	2,528	2,619	*														1
Warren.....	1,276	1,640	2														
Waseca.....	3,103	2,838	3			1	1										
Waterville.....	1,260	1,383	2			2											
West St. Paul.....	1,830	2,100	2			1											
Willmar.....	3,409	4,040	4	1		1											
Windom.....	1,944	1,884	0														
Winona.....	19,714	20,334	22	3		1	1					1					2
Worthington.....	2,386	2,276	4	1													

\*No report received, Health officer not doing his duty.



## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF MARCH, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	*														
Adrian.....	1,258	1,184	*														
Aitkin.....	1,719	1,896	1														
Akeley.....		1,636	0														
Alexandria.....	2,681	3,051	*														
Appleton.....	1,184	1,321	1														
Belle Plaine.....	1,121	1,301	4														
Benson.....	1,525	1,766	0														
Breckenridge.....	1,282	1,850	1														
Buffalo.....	1,040	1,124	2														
Caledonia.....	1,175	1,405	4						1								
Canby.....	1,100	1,505	0														
Cannon Falls.....	1,239	1,460	1														
Cass Lake.....	546	1,062	1														
Chisholm.....		4,231	17	2		3	1	2	1							1	
Crowson.....	962	1,056	1			1							1				
Delano.....	967	1,023	*														
Fosston.....	864	1,000	0														
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	4						1								
Glenwood.....	1,116	1,718	*														
Graceville.....	856	1,032	0														
Grand Rapids.....	1,428	2,055	7			2	1										
Hallock.....	805	1,014	0														
Hibbing.....	2,481	6,566	13	1		2	1	1							1	3	
Jackson.....	1,756	1,776	0														
Janesville.....	1,254	1,205	1														
Kasson.....	1,112	1,049	1		1												
Kenyon.....	1,202	1,252	0														
Lake Crystal.....	1,215	1,231	3			1										1	
Lanesboro.....	1,102	1,041	3	1													
Long Prairie.....	1,385	1,256	*														
Madelia.....	1,272	1,290	2														
Milaca.....	1,204	1,319	0														
Mountain Lake.....	959	1,063	1	1													
North Mankato.....	939	1,129	2	1													
North St. Paul.....	1,110	1,400	3						1								
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	*														
Park Rapids.....	1,313	1,719	*														
Pelican Rapids.....	1,033	1,095	1														
Perham.....	1,182	1,366	*														
Pine City.....	993	1,092	2														
Plainview.....	1,038	1,140	0														
Preston.....	1,278	1,320	1														
Princeton.....	1,319	1,704	*														
Rush City.....	987	1,041	3														
Rushford.....	1,062	1,040	1														
St. Louis Park.....	1,325	1,491	2	1													
Sandstone.....	1,189	1,589	*														
Sauk Rapids.....	1,391	1,552	1														
Scanlon.....		1,122	4														
South Stillwater.....	1,422	1,572	0														
Springfield.....	1,511	1,546	0														
Spring Valley.....	1,770	1,573	*														
Staples.....	1,504	2,163	*														
Two Harbors.....	3,278	4,402	8			1			1							2	1
Wadena.....	1,520	1,868	2			1											
Wells.....	2,017	1,814	*														
West Minneapolis.....	2,250	2,530	2	1	1												
Wheaton.....	1,132	1,346	2			1											
White Bear Lake.....	1,283	1,724	1														
Winebago City.....	1,816	1,553	1														
Winthrop.....	813	1,031	*														
Zumbrota.....	1,119	1,129	1														
State Institutions.....			30	6													
Other parts of State.....	1,012,328	1,085,886	766	53	10	120	13	15	12	3	2	15	4	9	26	28	4
Total for State.....	1,751,395	1,979,658	1757	171	32	255	25	45	28	4	2	18		33	45	93	7

179 Still births and premature births, not included in above totals report received. Health officer not doing his duty.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## SURGERY OF THE KIDNEY AND URETER\*

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MINNEAPOLIS

The rapid advances that have been made in kidney surgery are most remarkable. Kümmel states that it has been able, as has no other science, to utilize the physical and technical accomplishments of modern times. Improvement in diagnostic methods and a better understanding of pathology are responsible, in the main, for these advances. The cystoscope and the ureteral catheter, the various segregators, the x-ray, and the less effective but valuable and ingenious methods which are used to ascertain kidney function have taken many conditions from the exclusive domain of the internist and placed them in the category of surgical diseases that are amenable to treatment.

### FUNCTION AND DIAGNOSIS

Methods of estimating kidney function are by no means accurate as yet. Cryoscopy, estimation of the amount of urea excreted, and the phloridzen-test are the most important of these; and cryoscopy seems to be the most reliable. Kümmel, who has had an extensive experience with the method, is satisfied that it will show in which cases a nephrectomy may or may not be safely attempted. Rovsing of Copenhagen, however, is of the opinion that if the ureteral catheter shows that the second kidney is excreting healthy urine a nephrectomy may be

done in the presence of the proper indications. Under the conditions in which most of us work, I am inclined to believe that this rule must guide until such a time as some method has been proven to be satisfactory and has been universally accepted. Formerly, exploratory incisions were found necessary, in order to prove the presence or absence of a second kidney when considering nephrectomy and nothing could be learned regarding function by this method. The catheterizing cystoscope has rendered these procedures unnecessary. There is no other method of securing uncontaminated urine separately from the kidneys. The dangers from infection from catheterizing the ureters have undoubtedly been greatly exaggerated. With ordinary care this feature may be ignored. I was surprised to note that Dr. Ochsner, in the edition of his work published in 1904, says that the catheterizing of the ureter seems to be an unwarranted procedure. With this assertion those who have had the greatest experience in the work do not agree. In women a very simple method where the knee-chest position can be assumed is to collect the urine with the beveled Kelly cystoscope.

The use of the segregator is to be recommended, as a rule, only when ureteral catheterization is impossible. The cystoscope and the x-ray will give us sufficiently exact data in the vast majority of cases when combined with a

\*Read before the Hennepin County Medical Society, February 1, 1909, and before the Crow River Medical Society, February 12, 1909.

well-taken history and the proper physical and urinary examination. Every individual presenting himself with urine containing abnormal ingredients, especially pus or blood, should have the source of these ingredients determined. The cystoscope will show the condition of the bladder and the number and condition of the ureteral openings, and much valuable information regarding the condition of the corresponding kidney may be gained in this way.

#### CALCULI

The x-ray has practically cleared up the question of the diagnosis of kidney and ureteral stone. With the proper technic the chances of error are slight. Two or more plates should correspond, and on account of the frequency of bilateral lithiasis both kidneys should probably be radiographed in every case. Failure to do this has brought one of my patients to a second operation. Dr. Eisendrath of Chicago has recently strongly advocated this procedure.

In suspected ureteral stone the chance of error is greater. Phleboliths, and in one instance an appendiceal concretion, have been mistaken for ureteral stone. Here, as in many other conditions, the ureteral catheter, either plain or wax-tipped, and the flexible metal probe are of importance. In two instances I have succeeded in locating with their aid ureteral calculi at points one and three inches, respectively, from the bladder. Both of these calculi could also be felt through the vagina. In the first instance Dr. A. W. Abbott directed my attention to this point during consultation. The young woman had had her appendix removed four months previously, without any relief. I attempted to take a radiograph, but was unable to do so on account of an accident to the apparatus. The colic and the urinary findings were so typical of kidney-stone that the diagnosis seemed certain. Upon exploration, however, no calculus was discovered, even after bisecting the kidney. A probe was introduced through the ureter into the bladder without meeting with obstruction. The urinary findings remained unchanged, but the patient had complete relief for a period of six weeks, when the symptoms once more began to manifest themselves. After nine months she returned to the hospital stating that she had suffered all this time with *right-sided* colic and bladder irritation, and also had had some pain in the region of the left kidney. At this time we detected a nodule in the right vaginal vault. I introduced a ureteral sound into the right

ureter and met with obstruction about three inches from the meatus. Two days later, with a metal sound in the ureter to act as a guide, I made a low McBurney incision, and, by pushing the peritoneum inward, the ureter was easily located, and a stone of the dimensions of a date-seed was removed. Her recovery was uneventful. Four months later she returned to the hospital and the gall-bladder was drained on account of an acute attack of cholecystitis. With the abdomen open I made a careful digital examination of both of the kidneys and ureters, but nothing abnormal could be felt. As she still complained of *left-sided* colic, and the urine showed both pus and blood-cells, I catheterized the ureters as soon as she had sufficiently recovered from the gall-bladder operation. A few red cells were found in the urine from each ureter. An injection of a slight amount of fluid into the left kidney caused colic identical with that from which she had been suffering,—a diagnostic point first mentioned by Kelly. A radiograph taken at this time showed a shadow in the kidney region, and exploration of the kidney revealed two small calculi. Within a few days the patient once more developed *right-sided* colic, and while waiting for her condition to improve sufficiently so that further examinations could be made, she presented me with two calculi which she had voided *per urethram*. Her *right-sided* colics continued, and vaginal examination showed another nodule in the region of the right ureter. The ureteral sound easily detected a concretion not over an inch from the bladder. After several unsuccessful attempts at its removal by means of the alligator forceps through the dilated ureteral meatus, another operation, her sixth, was finally decided upon. The extra-peritoneal route was again chosen, but on account of adhesions it was found necessary to open the peritoneum. This was done through a right-rectus incision, and all of the contents of the pelvis were packed off. By an incision through the broad ligament excellent exposure of the ureter was obtained. One small stone was removed and the posterior peritoneum completely closed, drainage being introduced through the first incision. The abdomen was closed without drainage. This patient has remained well since.

The value of good radiographs in a case like this is manifest.

In contrast to this case I would call attention to the following in which the proper plan of investigation was followed out:



P. P., aged 31, has had eight years of colicky attacks in the left upper abdomen. Urine constantly shows red cells; some tenderness in the region of left kidney. The x-ray was resorted to, and a definite shadow clinched the diagnosis. Two concretions were removed through an opening in the kidney pelvis.

In January, 1909, I explored the kidney of a young woman, aged 25 years, at Asbury Hospital. She had had three years of right-sided colic accompanied by vesical irritation. Each of three radiographs showed a calculus just above the iliac bone on the right side. (Fig. 1.)



Fig. 1.

These concretions were removed from a point just outside of the ureter and about three inches below the kidney. They were either in a diverticulum or had ulcerated through the ureteral wall. The kidney was small and hard, and upon opening it considerable scar-tissue was seen, but no more calculi.

If the x-ray were resorted to in all suspicious cases, great benefits would result. The cause would often become manifest, and the proper treatment might be instituted before great destruction had taken place. It is well known that calculi in any portion of the genito-urinary tract, if proper treatment is neglected, will, eventually, become a menace to life. As an example of the great destruction which may result, I present this specimen (showing specimen) which Dr. Sievertsen and I removed recently. There was total destruction of the kidney-tissue. This man gave a history of three severe injuries to the left upper abdomen. Cystoscopic examination by Dr. Sam Sweister revealed purulent material ex-

uding from the left ureteral orifice. Urine from the right was normal. The emaciation and weakness made a diagnosis of malignancy not unlikely. The operation was beset with the greatest of difficulties, extreme effort being necessary in order to grub out the products of prolonged suppuration. It is obvious that such a dangerous operation, as well as the loss of this organ, might have been avoided by an earlier operation.

Expectant treatment has no place in the case of kidney calculi. In ureteral calculi, their size and location, as shown by the x-ray, will enable us to estimate whether an operation or an expectant plan had better be followed.

#### TUBERCULOSIS OF THE KIDNEY

The teaching regarding kidney tuberculosis has changed greatly during the last ten years. Instead of being considered secondary to bladder tuberculosis and generally bilateral, it is now known to be almost always hematogenous in origin, and, in the beginning, at least, and often for varying periods thereafter, limited to one kidney. Indeed, it is now known to be a common cause and not the effect of bladder tuberculosis; and nephrectomy is the only satisfactory method of treating this distressing bladder condition.

The diagnosis presents many difficulties, but in nearly all cases the proper investigation will overcome these. A very important point is the exclusion of disease of the other kidney. Ill health from other conditions is not necessarily a contra-indication to operation, and nephrectomy is always indicated in the case of unilateral disease.

Three years ago I removed the left kidney of a woman during the second month of pregnancy. Cystoscopy showed the characteristic elevated granulations about the left ureteral orifice. There was healthy urine from the right kidney, and that from the left contained blood, pus, and tubercle bacilli. The kidney showed advanced miliary tuberculosis. The symptoms had existed only seven months. She gave birth to a healthy child, and she is in perfect health now. Pregnancy is no more a contra-indication to this emergency operation than in many others.

Expectant treatment has no place in unilateral tuberculosis disease of the kidney. There are very few cases of spontaneous recovery on record, and even these were not positively diagnosed. Gilliam, in his recent work, advises an expectant plan in some cases. In the light of re-

cent developments this advice must be considered wrong. Kelly states that he has never known of a case of tuberculosis of the kidney where recovery took place. In addition to this, every case upon which he has operated successfully has remained well, some now for ten years. His results are by no means exceptional. In a large percentage of cases the condition of the ureteral orifice will show which kidney is affected, and in some cases a probable diagnosis may be made by this method alone.

Bevan very tersely states the following well-established facts in regard to kidney tuberculosis, and they should be widely known:

1. Kidney tuberculosis is comparatively common.
2. It is at first unilateral.
3. An early diagnosis is possible.
4. It can be cured in its early stages by appropriate treatment.

#### RUPTURE OF THE KIDNEY

In diagnosing rupture of the kidney the newer methods are not so helpful. Here we must depend upon the urinary findings, and more especially upon the history, physical examination, and general symptoms of the patient. I can perhaps illustrate the symptoms, diagnosis, and treatment in no better way than by reporting the following case:

J. H., aged 27, married.

History: Ten days before admission he fell from the roof of a house, striking upon the left side of the abdomen across a banister. After the injury he was able to walk about for a short time. Pain later became severe, and the patient became very weak. Retention of urine for 48 hours followed the accident, and the urine showed blood macroscopically. At the time of my first examination, ten days after the accident, the patient was in severe pain, with the pulse 90, and the temperature  $102^{\circ}$ . The whole abdomen was tympanitic, rigidity marked over the left side. After giving a Noble's enema, the distention disappeared and the abdomen was found to be dull over the left side. The tongue was dry and cracked, and the urine showed a large amount of blood. Morphine in large doses had been required to relieve the pain.

A diagnosis of ruptured kidney was made and the possibility of an intraperitoneal lesion considered. An oblique incision was made above the iliac spine, and a perinephritic hematoma, containing approximately three pints of black blood,

evacuated. Upon removing the blood-clots, the lower pole of the kidney was found lying loose in the cavity. (Fig. 2). The remaining portion of the kidney appeared healthy and it was allowed to remain. Tube and gauze drainage were inserted, and profuse discharge of blood and urine followed for several days. Recovery was complete.



Fig. 2.

The operation here was conservative, and I believe the result obtained justifies such treatment. I see no good reason why a ruptured kidney may not be sutured, in most cases, providing the blood-supply is intact. If hemorrhage is checked and sufficient drainage instituted, all healthy kidney tissue may be allowed to remain. A radical operation may be done later, if this becomes necessary.

#### PYONEPHROSIS, HYDRONEPHROSIS, AND PYELITIS

Pyonephrosis and hydronephrosis are conditions which are a direct menace to life; and nephrectomy is probably the operation of choice here, especially in chronic cases, if the other kidney is known to be sound. Plastic operations upon the ureter have not proven very success-



ful, and secondary nephrectomy is an exceedingly difficult operation.

W. F. E., male, aged 23, has had four years of right-sided colic and lost twenty pounds in weight. The urine showed pus and a few blood-cells. The bladder showed nothing abnormal when viewed through the cystoscope, except that the left ureter was at least two inches from its normal position, being well up towards the fundus. The urine from the left kidney was normal, while that from the right showed pus and blood. There were no tubercle bacilli. Operation revealed about the condition shown in Fig. 3, a greatly dilated kidney pelvis with only



Fig. 3.

a shell of kidney tissue remaining. Nephrectomy resulted in a prompt recovery.

In some cases of chronic pyelitis lavage through the ureteral catheter has given encouraging results.

#### CYSTIC KIDNEY

Cysts of the kidney are bilateral in a vast majority of cases, and the treatment of this condition is stated by most authors to be hopeless, occasionally, however, surgical treatment is indicated in the presence of a correct diagnosis, as illustrated by the following case:

C. C., female, aged 17. There had been some uneasiness, hardly amounting to pain, in the left loin for many years, and some bladder irritation. The urine showed pus and albumin; no casts. The origin of the pus was the point to be decided, so as to ascertain whether there was disease of one or both kidneys, or of the bladder alone, or of all three. On cystoscopic examination the bladder was found to be normal. The urine from the right ureteral catheter was ejected at intervals; that from the left in continuous drops. Normal urine was obtained from the right kidney, while that from the left showed large numbers of pus cells, but no tubercle bacilli. A pyelitis of the left kidney was therefore positively diagnosed, although its cause was not determined. Operation revealed the condition shown in Fig. 4, the kidney tissue being replaced by

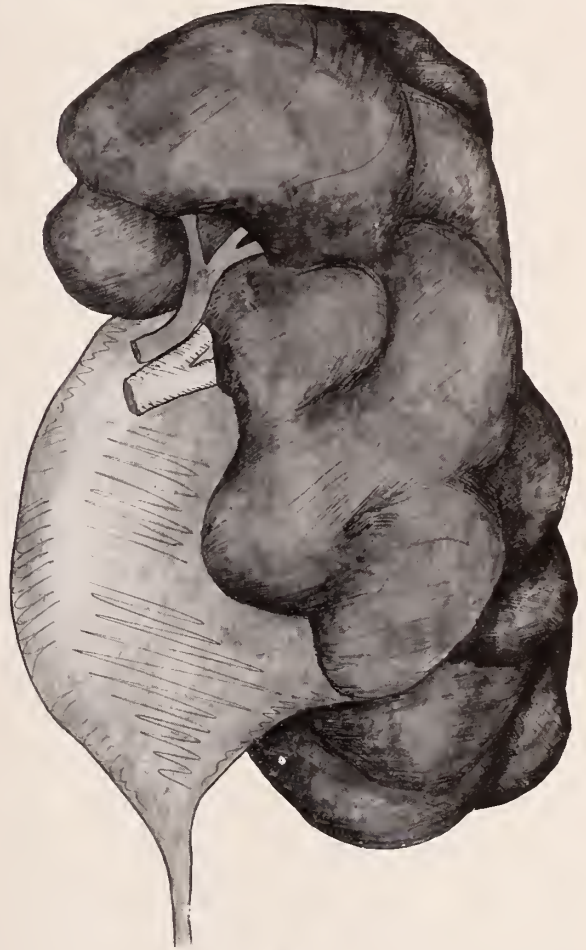


Fig. 4.

many cysts. Nephrectomy was performed, and she has remained well, though I found it necessary subsequently to remove the ureter, in order to eliminate the suppurative process.



## HEMORRHAGIC KIDNEY

The causes of renal hemorrhage are numerous, but in a certain class of cases no cause has been found to account for the bleeding. This has been designated essential kidney hemorrhage. Isreal, Rovsings, and others believe that some undiscovered cause is present. I have seen one of these cases:

O. N., aged 45, eight years ago had an attack of severe colic lasting two days. No further symptoms until eight days ago when he began to have severe pain in the right loin, followed by profuse hemorrhage through the urethra, which has been almost constant since. Temperature, normal; very rigid over right kidney; marked anemia; urine, thick with blood. In delivering this kidney a rupture occurred in its upper pole, and I clamped the vessels and removed the organ.

From a somewhat careful review of the literature it would seem that nephrectomy is the operation of choice. Bunts, in a recent analysis of fifty cases in which nephrectomy was done in twelve with one death and nephrotomy in thirty-eight with three deaths, found that a secondary nephrectomy was necessary in three cases, but many kidneys were saved by this method, the mortality being about the same for both procedures. In my case the kidney was so much enlarged, and so soft, and the condition of the patient so bad, that I did not think it wise to take the chance of subsequent hemorrhage. I also thought it probable that this kidney contained a sarcoma or at least some lesion which demanded nephrectomy. In this I was probably mistaken. Young advocates the injection of adrenalin through the ureteral catheter in these cases, and reports some successful cases. The method seems worthy of further trial.

## MOVABLE KIDNEY

I have not yet seen a case of movable kidney in which I have advised this operation alone. I have performed nephropexy four times, but in each case the appendix was removed, twice through the same incision and twice through an anterior incision, through which other work was being done. Three of these patients have remained well, and the fourth is not benefited to any extent, though she is somewhat better. Surgery presents no class of cases in which it is more difficult to select cases for operation, and I believe that the indications should be very clear before advising operation.

## NEOPLASMS

The chance for an early diagnosis in malignant tumors of the kidney is not bad when compared with that of other internal growths. Unfortunately, an early recurrence is the rule. Most malignant tumors of the kidney are hypernephromata, and these are especially prone to recur. Dr. Bevan has had some remarkable results in x-ray therapy in some of these cases, and a thorough trial should be given this method.

I have now under treatment a case in which I did a nephrectomy on November 18, 1908. This patient, J. F. T., male, aged 58, had symptoms for about nine months. In the beginning the pain was especially severe at intervals in the right scrotum. Hematuria usually preceded these attacks of pain. One month before I saw him he had been advised that he had a right-sided hernia, which proved to be a right-sided varicocele, a point considered by some to be very important in the diagnosis of cancer of the kidney. Cystoscopic examination showed a normal bladder and blood streaming from the right ureter, and normal urine was collected from the left. A diagnosis of cancer of the kidney was made. This kidney was easily palpated and seemed freely movable, but the growth was found to have infiltrated to the posterior abdominal muscles, and I hardly think that it was completely removed.\*

There are other conditions which we might discuss with profit. I would mention the surgical treatment of Bright's disease simply to condemn the procedure of decapsulation. I would mention also acute hematogenous infection, suggesting that we be more alert in its recognition and treatment, but I have purposely confined my remarks to the conditions which I have treated. My failures, as well as my successes, are intentionally presented to you, and if a recital of my mistakes becomes the means of preventing similar errors on the part of any one of you I shall feel rewarded for my efforts.

## DISCUSSION

DR. A. E. BENJAMIN: This is a very interesting subject, and I feel sure there are a number of men here tonight who can say more than I can about it. I think Dr. Farr has gone over the subject in such a way that we have but few criticisms on his paper, but I will take up one or two points that he has mentioned.

For instance, take tubercular kidney. Very often this disease starts in children, but these children, unfortunately, occasionally live on farms, far from the

\*July 1, 1909.—Patient has gained in weight and now weighs more than ever before, and is in perfect health.

skill and visits of modern practitioners of medicine, and the diagnosis is not made. You will find some of these with one kidney apparently gone with tubercular disease, and when the case comes to the hands of a surgeon, he must be very careful in operating. The functional work of the kidneys must be determined, or of the one kidney, if one kidney is left. When only one is present, it is a very large kidney, doing the work of two. The removal of the one tuberculous kidney, if only one is affected, as a rule, removes the disease. I have been using tuberculin in some of my tubercular cases lately, and I feel that we have in that remedy the possibility of curing some of these cases where one kidney is left with some tubercular infection.

It is true that we find stones in both kidneys, and very often in the ureter. It has been my method in operating upon these patients, where we have found a stone in the kidney, to first make all the necessary examinations to see if there is a stone in the kidney, and to catheterize the ureter, and to determine the function of the two kidneys, and possibly the presence of a stone in the ureter.

Now, in some of these cases, it is impossible to get a cystoscope even into the bladder. Take in tuberculosis of the kidney: here we find disease of the bladder, and in young people, it is not always possible to pass the cystoscope into the bladder. There is often so much blood, and pus, and pain that unless we give them an anesthetic, it is almost impossible to make a satisfactory examination. Some of these patients I have given an anesthetic to, and kept a stream of water running all the time; we are then able to examine the bladder pretty thoroughly, but it is impossible to catheterize the ureter in some bases, *e. g.*, in conditions where the bladder is contracted, or take it in a woman who has had an infection, or peritonitis, and contraction around the ureter, it is almost impossible to get a catheter in.

In exploring the kidney and the ureter for possible stones, an incision, beginning at the lower rib and extending forward over the crest of the ilium, entirely exposes the kidney as well as the ureter; the stones can easily be removed through this incision.

DR. E. R. HARE: A condition that might be somewhat troublesome in technic, and is found with enough frequency to command attention, is the abnormal blood-supply to the kidney. It has not been my misfortune to meet it in operating, but frequently, in the cadaver, large vessels will be given off from the abdominal aorta, low down, or from the common iliac, passing to the inferior pole of the kidney.

I remember one instance in which a large sized artery was given off from the common iliac, and passed directly outward and upward to the inferior pole of the kidney, sufficiently large to have caused serious hemorrhage by its separation, had not the condition been recognized.

DR. J. WARREN LITTLE: I am sure it is a privilege for us to hear this admirable paper by Dr. Farr, and I, for one, am very glad to have heard it.

I have not found in my experience that it is an easy matter to locate stones in the kidney. I had an expert examine a case for me in which there were two large stones in the left kidney. An x-ray picture was taken and the stones were not well defined, so I was unable

to tell, after the picture was taken, whether or not the stones were present. We then used the cystoscope, but the man had a large prostate, and for that reason we were unable to catheterize the ureter, and so we had to depend upon the clinical symptoms, which were pain in the left side with blood and pus in the urine. We felt quite sure that a stone must be present. An exploration revealed the presence of two stones, each as large as the end of the little finger.

Ordinarily, I believe the stones might be, with a good deal of certainty, made clear in the picture, as the doctor has shown, but the man who made the picture for me has had large experience, and it shows that the x-ray cannot be implicitly relied upon.

I believe that what the doctor has shown us here tonight will stimulate a little more study on our part, and I know more satisfactory work will be done as a result.

In one case I removed a great many stones from the kidney, and the structure was so damaged that there seemed to be only the capsule left, but I placed a rubber tube in it, and when the pus was drained out a perfect closure was secured. Later examination showed that there was a good deal of urine being secreted from the remains of the kidney, demonstrating that it is worth while to make an attempt in these cases to save all the kidney-structure possible.

DR. FARR (closing): I wish to thank the gentlemen who have participated in this discussion.

With regard to Dr. Little's case: I will say that while you can attach no blame to the radiographer when he fails to find a stone when present, yet if the stones are not shown it is due to faulty technic in most cases. I believe the time will come when kidney stones will be shown by the x-ray in every case in which they are present.

If I understand Dr. Benjamin correctly he advocates, in case of bilateral tuberculosis of the kidney, the removal of the one showing the greatest amount of tuberculous disease, and then using the tuberculin treatment. Now, it seems to me that this is not in agreement with the present teaching. I believe that bilateral tuberculous disease of the kidney is not surgical at all.

With regard to the incision: I would state that in case that it is necessary to follow the ureter as far as the bladder I much prefer making a second incision low down, rather than the incision of Israel, which Dr. Benjamin mentions.

I am glad that Dr. Hare called attention to the anomalous blood-supply of the kidney which, I believe, occurs somewhat frequently. I do not think there is very great danger of hemorrhage in these cases, as a very large vessel will give resistance, so that it may be recognized and clamped; at least this condition is frequently mentioned, but hemorrhage on account of the presence of an anomalous blood-supply is not often referred to.

#### THE USE OF ATROPINE IN DIABETES

J. Rudisch strongly recommends the use of atropine, especially in the form of the methyl bromide, in the treatment of diabetes. He has used the drug in a series of cases and finds that the carbohydrate tolerance is decidedly increased.—Medical Record.

# NOTES ON A TRIP ABROAD

PARIS, LONDON, AND SIR VICTOR HOSLEY

BY THE EDITOR

## FROM BAD NAUHEIM TO PARIS

From Bad Nauheim to Paris is a long run of fourteen hours, so we decided to break the journey at Strassburg to see its beautiful orangerie gardens, its handsome new palace and government buildings, and the famous old cathedral. Here again were evidences of the growth and push of Germany,—enterprise and bustle with all of the old and all of the new markings of a modern city.

We arrived in Paris on the following day. The country of Germany and France was beautiful. Everything was in full bloom of spring, and the weather all one could desire. Paris seemed more attractive than ever, and the streets were as crowded as possible.

While driving in an ordinary cab one day we experienced the sensations of being run into by an auto-taxicab. Our conveyance suffered a twisted rear axle, a punctured tire, and nearly turned over. The driver was thrown to the floor, and we were fortunate to escape with few bruises. The automobile suffered a severe dislocation and fracture of a pair of fenders and other minor injuries. The fault lay entirely with the auto driver, but the policeman who sauntered up treated the whole matter with little concern—no arrests, no cards exchanged, and no duels fought. We went our way to our train, and the incident was forgotten. It was an everyday occurrence, and the wonder is that more do not occur. The automobile drivers whirl through the streets in seemingly reckless fashion, but, then, all Paris is reckless.

We saw some of the environs of Paris this time. Dr. Geo. D. Head, who happened there, was our associate at Versailles. The forests and chateaux at Fontainebleau and Chantilly are wonderfully preserved, and the treasures at both places are choice and artistic.

Chartres, with its great cathedral, offered an opportunity for a few hours' excursion, and it gave us an idea of a cathedral town.

Salpetriere, the famous old hospital where I saw and heard the elder Charcot twenty-two years ago, was much the same,—not at all modern, but full of interesting and rare forms of nervous disease. Here are cases of multiple

sclerosis in all stages and ages, and wards full of them for study and observation. They are so common that they are not looked upon as rare, and they occur in exceedingly young subjects. We do not see many such cases in the West. Perhaps the surroundings and the strain and tension of life in large and crowded cities have something to do with the disease.

I also saw several cases of syringomyelia and innumerable cases of tabes. The old wards are filled, overcrowded, with single beds, upon which are piled clothing, feather beds, and enormous pillows, not like the hospital bed of today in the new hospitals. The work of scientific investigation goes on just the same, and the care in working up the details of each case is as thorough as could be desired. The best neurologists and psychiatrists give their time to the old institution, and its good work will continue.

Hypnotism seems to have been forgotten, or, at least, is not in the limelight now. Perhaps after the death of Charcot, whose statue stands at the main gate of the hospital, the school of Nancy lost its influence. Suggestion is still employed, but in its broader sense.

There are many new and attractive hospitals in Paris, just as there are in other large cities, but the old places where people and patients have gone for ages still offer a fine field for the student. I met Prof. Raymond and we conversed volubly for about two minutes through an interpreter. My knowledge of French is strictly limited to two or three words, and therefore I do not feel free to converse long with any French-speaking individual. A large and fine hospital built by Americans at a cost of \$200,000, and for Americans, is to be formally opened in Paris this month. The need of such an institution has been very evident the past few years, and now it remains to be seen whether American patronage and support will maintain it.

Our last objective point was London, where English is the universal language. I find it possible, by straining my ear drum, to understand a true Englishman, but I was considerably surprised to find that they could not fully grasp my English until they accepted the expected American twang or pronunciation.



We had a fine time in London, and the clinical offerings were highly instructive. I took advantage of the clinics, lectures, and operations at the National Hospital for Paralyzed and Epileptics.

Sir William Gowers still visits his wards twice a week and is still an active man and only about sixty-five years old. He was reported to have had some serious breakdown years ago, but there are no evidences of it now.

Professors Ferrier and Hughlings Jackson are living, but are not very active. Dr. Beevor, who made such an impression at the Section on Nervous and Mental Diseases at the A. M. A. last year, died quite suddenly a few months ago. Dr. Buzzard is among the active.

Sir Victor Horsley, a man much younger than any of the above-mentioned, is doing an enormous amount of scientific work, and is not only an eminent neurologist, but an eminent surgeon, particularly in the field of the brain and spinal cord. His experiments on monkeys to further the knowledge in localization of brain centers is carried on in his private laboratory, where he spends three or more hours daily.

His photography of the eye-ground is the most wonderful I have ever seen. His apparatus is complete for this kind of work, and as he makes his own preparations and exposures with the materials under water and by the aid of electric light, he has succeeded in eliminating all previous faults and has produced phenomenal results. His surgery of the skull and spine is masterful, and the secret of his success lies in the fact that he knows his anatomy thoroughly. He appreciates and respects the make-up of the nervous system, and he knows when he has done enough in each particular case. He stops operating before the patient has been affected by the shock, and he keeps not only the patient, but the surgically exposed area, warm up to body heat. He watches everything and even directs the quantity and proportion of the anesthetic to be given. Care, attention, foresight, and a knowledge of everything of the case in hand make his work successful. I saw a number of patients who had been operated upon for brain tumors or diseases of the spinal bones, and were on their way to improvement and recovery.

Sir Victor's enucleation of a brain tumor is most instructive, and the fearless and confident manner in which he invades the ventricles shows his familiarity with brain surgery. He believes in early operations in caries of the spine, and he deplores the fact that so many tuberculous

spines are allowed to go on to the point of helplessness. From what I saw of his work, I am sure he must be right. He is a most skillful diagnostician, and on account of his research work and the painstaking investigation of little things, he is able to arrive at conclusions based upon accurate observations. His skill in differentiation is due to his broad view of the history and his reliance on important but frequently overlooked findings. In describing a case he goes into the essentials only so far as they apply from a practical, as well as a clinical, point of view.

A younger generation of neurologists who are connected with the National Hospital are daily demonstrating the necessity of continued dispensary attendance. Dr. Risien Russell, Dr. Batten, and Dr. Collier have devoted years to the hospital dispensary, and now their names are linked with the older and formerly well-known men. Each one of them has added to our knowledge of the anatomy and physiological functions and pathology of the nervous system. There is a unanimity of purpose and a faithful performance of duty that makes one respect and listen to them.

The National Hospital for Paralyzed and Epileptic furnishes an enormous amount of clinical material, and when an interesting case comes into the clinic that requires study and observation it is sent into the wards at the earliest possible moment. The case is seen by several specialists,—neurologists, oculists, or surgeons, as the symptoms suggest,—and the result, after careful study and investigation, is a clean-cut diagnosis.

I do not think the advantages of London clinics is appreciated as much as it should be by American students. One important feature is the publication each week in the London Lancet of all operations, clinics, demonstrations, and lectures that are to be given the following week. It is possible therefore to keep in very close touch with any kind of work desired. Then, too, American students who have merely a smattering of foreign languages cannot possibly understand and assimilate the finer points under discussion in a clinic where the foreign language is spoken. In London one can hear the mother tongue and appreciate all that is said.

A visit to foreign hospitals should stimulate the student, young or old, to go home and endeavor to do his work as thoroughly and conscientiously as is done by men who have obtained eminence by persistent and faithful performance of duty.

# EXTROPHY OF THE BLADDER; REPORT OF A CASE\*

By ARTHUR T. MANN, M. D.

Professor of Clinical Surgery, University of Minnesota; Surgeon to the Northwestern Hospital and to the City Hospital; Assistant Chief of Clinic, State University Hospital

MINNEAPOLIS

The case is that of Bertha J., age 37. A rather small Norwegian woman, apparently well developed and normal except for the conditions connected with the extrophy of the bladder.



Photograph (taken by the author) of Bertha J., aged 37 years.—Extrophy of the bladder with anterior bladder wall made from skin flaps. No umbilicus. No urethra. No symphysis.

The accompanying cut is from a photograph taken by me about one month ago and shows the present condition of the patient. The entire front wall of the bladder has been made by flaps turned across in front of the back wall from the abdomen and groins. The labia have been brought together and turned in at the top to make the exit of the vagina small. There is no urethra. The bladder opens into the lower portion of the vagina through an aperture which will just admit the tip of a finger. All this is the result of nineteen operations under full anesthesia, the last one of which was done by me some three months ago and resulted in a final closure of the anterior wall of the bladder.

Fig. 8 represents an appliance which I have arranged to retain the urine. It consists of a hard-rubber pad held in place over the vulva by

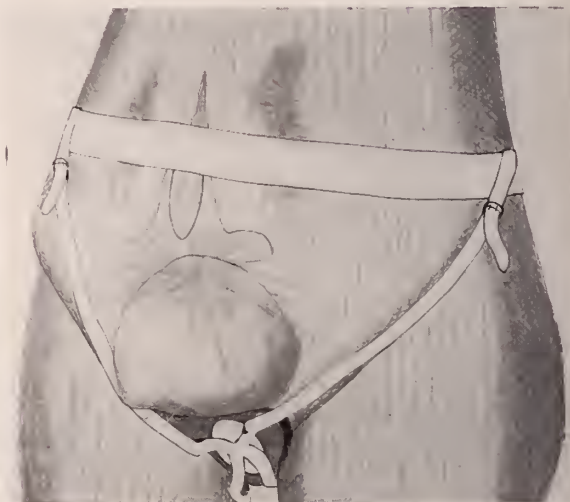


Fig. No. 8. Drawing shows apparatus used to retain the urine; a pad held in place by proper straps of webbing and a belt.

straps of webbing fastened to a belt both front and back. It was difficult to have pressure enough to make a watertight joint, so a piece of galvanized iron with four arms, cut to match the direction of the straps of webbing, was fastened to the pad beneath the straps and the arms bent outward. In this way the pad is easily pushed up against the vulva tight enough to retain the urine.

On examination of the patient we find no umbilicus; the symphysis is wanting, and the rami of the pubes do not meet. There is an interval of four or four and a half inches with no bony support in front of the bladder below and nothing above but the thin skin flaps, which make up the anterior wall of the bladder, bulging between the widely separated recti muscles, with nothing to retain it. Aside from the absent symphysis and mesial portions of the rami, the pelvis seems normal.

Now, in regard to the benefits to this patient, from what has been done. In the first place she had a raw, sore, everted bladder (Figs. 1 and 2). That has been covered over. That much is a benefit. Up to the present time she has been wearing a urinal. She is thirty-seven years old and has worn one practically all her life. With the retaining pad she is able to hold her urine for two hours at a time. Occasionally she be-

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.



comes sore and cannot use it and then has to go back to the urinal. So we have not accomplished quite as much as one might think by looking at the pictures. She suffers from cystitis continually; there is a constant discharge of mucus with the urine; and she has had calculi in the bladder, and they have had to be removed by instruments under general anesthesia. These conditions are very grave, so far as comfort goes.

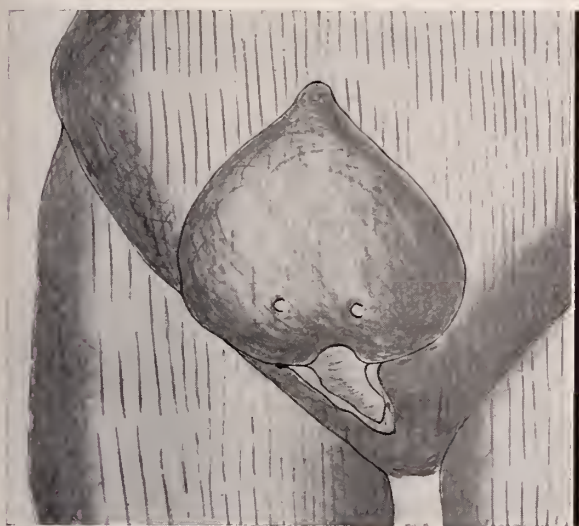


Fig. No. 1. Complete extrophy of the bladder showing everything open from the umbilicus to the symphysis (in our case ramii of pubes are  $4\frac{1}{2}$  in. apart). Urethra is absent. Bladder opens directly into the vagina over the crescentic fold of mucous membrane at the apex of the trigone. Uretral orifices are shown.

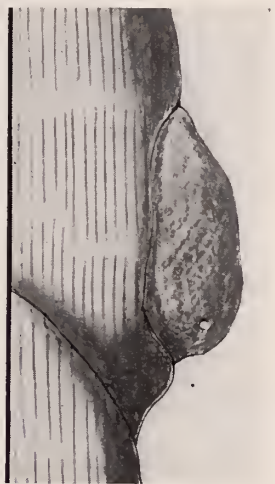


Fig. No. 2. Lateral view of the same.

A few remarks in regard to the general topic may be in order.

Figs. 1 and 2 represent, diagrammatically, the condition which would obtain if the patient had not been operated upon with the red, raw back-

wall of the bladder bulging freely forward under the pressure of the bowels behind.

Extrophy or aversion of the bladder is a congenital condition, of course, and is usually associated with cleft of the external genitals and of the urethra and symphysis. The umbilicus is wanting in complete cases because everything from the urachus down is open. The posterior wall bulges forward like a tumor between the umbilicus and the external genitals. This is associated in the male with epispadias of the rudimentary penis, while the labia majora and minora are widely separated, and the urethra is altogether wanting in the female. There are different degrees of extrophy, from a simple cleft into the lower middle or upper portion of the bladder to the complete form. In rare instances children have been born showing intra-uterine closure of a cleft of the bladder.

There are various theories as to the cause of these defects in the bladder and genitals, but that most accepted is simple lack of development.

In regard to treatment: The results have been very unsatisfactory in spite of the great interest which has always been taken in defects of the bladder and the great ingenuity which has been brought to bear upon this condition.

The operations may be divided into three classes: first, plastic operations; second, direct union of the separated edges; and, third, diversion of the urinary stream.

Of the plastic operations the first was to turn in a flap of skin with the epithelial side toward the bladder. This was modified later by taking other flaps to cover over the raw side of the first large flap. One of the best of these is illustrated in Figs. 5 and 6. There are disadvantages with this operation, however, as the flaps must often be of large size, and such flaps are poorly nourished. Besides this, urine is trickling over the line of stitches, and more or less gangrene often results in partial or almost complete loss of the flaps, or the back wall of the bladder bulging under the intra-abdominal pressure may cause the line of stitches to tear out. For this reason a number of operations are necessary before final success.

But even with final closure of the bladder there is often serious trouble. The hairs which have been turned inwards give rise to calculi and incrustations which cause great pain from irritation and must be removed, sometimes by irrigation, sometimes by instruments, and sometimes by operation through the newly-formed bladder-wall. Besides, in these cases there is no sphincter, and there can be no retention of urine. The



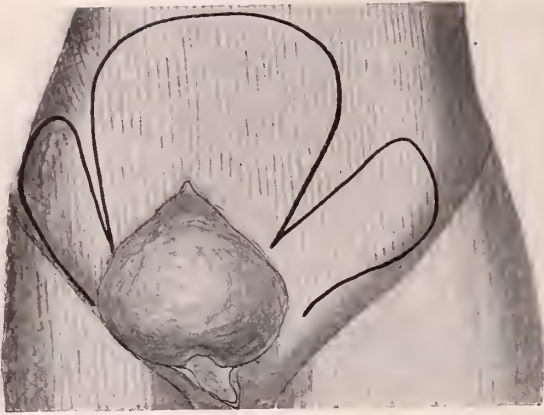


Fig. No. 3. Shows one method of cutting skin flaps from the abdomen to form an anterior wall for the bladder.



Figs. Nos. 5 and 6 show a method of cutting and placing flaps so that there is a double thickness with skin lining the bladder as well as covering the outside. The large central flap is turned downward, lining the anterior wall with skin surface, and the two lateral ones are turned across to cover the first flap.

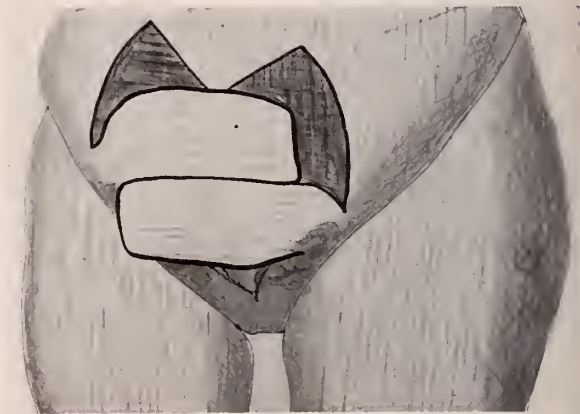


Fig No. 4. Flaps placed across for suturing. In Figs. Nos. 3 and 4, give a smooth granulating surface on the underside of the flap.

pad pressure at the root of the penis, or the rubber ring used by Wood for the same purpose, and others measures have proved so unsatisfactory that it seems best to recommend the use of the urinal.

The formation of calculi was sought to be avoided by turning flaps of skin across, so that the raw surface was directed toward the bladder, for example, as shown by Figs. 3 and 4, after they had been loosened over rubber plates and similar materials long enough to be lined with a firm growth of granulation-tissue. Incontinence of urine and the formation of calculi have also been the results of this procedure.

The second method, that of direct suture, is without much success. When the bladder is loosened and the edges sutured, the size is so small as to be almost useless as a reservoir for urine, but it may be turned downward so as to direct the urine through the groove of the urethra. Operators have attempted to bring the separated bones together by apparatus, using considerable force, or by dividing both sacro-iliac synchond-

roses and then warping the pelvis inward by a heavy belt. These latter operations are too uncertain and too serious to be used. Of the five patients operated upon in this manner by Trendelenburg, two died, and three remained with urinary fistulae. In one of these he succeeded in closing the fistula later, but the patient suffered from cystitis and calculus formations.

The third method is that of diverting the urinary stream into other channels.

Perhaps the simplest is to dissect the bladder and to implant the ureters into the gutter of the urethra, (or near the labia minora in the female). This avoids the troubles with calculi, lessens the risk of infection extending to the kidneys, removes the severe pains caused by ulceration of the protruding mucous membrane of the bladder wall, and allows the comfortable wearing of a urinal.

The next procedure was to implant the ureters, or the base of the bladder with the ureters into the rectum. Then they were implanted into the sigmoid and later into the small bowel, and finally into a loop of the bowel which was detached

from the rest of the bowel and utilized as a bladder cavity.

#### REMARKS

In looking over the field of operative procedures one is rather discouraged by the outlook. Incontinence of urine must always be expected except that after the more favorable cases of implantation of the ureters into the rectum the urine may be retained from one to three hours.

Implantation into the rectum or other parts

of the bowel leads to infection extending up to the kidneys in most cases.

To restore the bladder by direct suture of the edges results in a receptacle so small as to be practically useless, and these patients, as well as those in whom the anterior bladder wall is built up by flaps, suffer from cystitis and from the incrustation of calculus masses.

Removal of the bladder and implantation of the ureters into the urethral gutter is simple and relieves the patient from the pain of ulcerations and calculi.

## EPIDEMIC INFANTILE PARALYSIS\*

By D. M. STRANG, M. D.

NORTHFIELD, MINN.

During the summer of 1907 an epidemic of infantile paralysis occurred in New York City and vicinity in which 2,000 cases occurred. The severity of the cases was so intense and deaths from the disease so frequent that it excited a great amount of interest, both among the laity and the profession. The epidemic began about March, and the number of cases increased steadily during June and July, the height occurring in August and September, and some cases occurred as late as December. The summer, though not a hot one, was unusually dry. An earlier epidemic is recorded by Caverly in Rutland, Vermont, during the summer of 1894, at which time 119 cases, with 18 deaths, occurred.

More recent epidemics are reported in Eau Claire, Wis., in August, 1906, and in Whittemore, Iowa, in October of the same year, while numerous other towns report small outbreaks, all occurring during the hot, dry months of August, September, and October. According to press reports, the cases in each of these localities were quite baffling to the local physicians at first, some calling it infantile paralysis, and some meningitis, while others simply called it spinal trouble.

The Northfield epidemic, equally baffling at the start, began the latter part of July, reaching its height about the middle of August and extending through the first week of September. We had under observation twenty cases, mostly children. Of these, four were in one family, three in a second, and two in a third. Seven of the above were adults. Our deaths, four in number, were rapidly fatal, occurring within the

first six days, from paralysis of the muscles of respiration or the heart.

*Symptoms.*—The onset of disease was accompanied by a temperature of 102° to 104° F., sometimes by slight chill, usually by vomiting, malaise, general sweating, and general severe pains in the limbs, chest, and back. Some cases were attended by rigidity of the spine with tenderness and even retraction of the head, giving rise to a suspicion of meningitis. Constipation was the rule, and was quite persistent and troublesome. Delirium was a common accompaniment of the fever on the second or third day. The fever lasted from five to nine days, rarely being very high; even in the fatal cases the temperature rarely reached 104° F.

On the third or fourth day the paralysis was discovered. It usually appeared with considerable suddenness, and at its maximum from the onset, and it remained as the chief symptom after other symptoms subsided. The legs were most frequently involved, but the arms and neck and even the muscles of the back and chest were frequently affected. Retention of urine and loss of control of the bladder occurred in some, lasting several days, but this paralysis was not permanent in any instance. In a few cases complete recovery has ensued. In these cases the paralysis was never very marked, yet enough so to be easily noticed by members of the family. In others it amounted to simply a sense of great fatigue. A common expression was, that "their legs were not strong enough to hold them up." These may have been abortive cases.

I will give a report of one of the severe cases in full:

\*Read before the Rice County Medical Society at its annual meeting at Faribault, February 10, 1909.



Lucy H., aged 12 years. Family history shows a neurotic tendency on mother's side. The father had cerebrospinal meningitis when four years old. The paternal grandfather has articular rheumatism.

On August 15th, the patient was taken with severe pains in the back of the head, fever  $103^{\circ}$ , and vomiting, which was almost of the projectile type, lasting two days. Great tenderness along the spine; head retracted; and patient extremely irritable. On the second day the fever reached  $104^{\circ}$ . On the third day delirium and stupor began, and lasted three days, by which time the pain in head, the temperature, and other symptoms had subsided.

It was then that we first noticed the paralysis, but as the limbs were somewhat retracted, paralysis probably began one or two days earlier. The paralysis was at its maximum when first noticed, and involved the extensor groups of both legs and arms and the muscles of the back on the left side. In another week the paralysis cleared up in the right arm and to a marked degree in the left, but the leg muscles remained the same, the left having retracted to an angle of  $60^{\circ}$ , and the right to an angle of  $40^{\circ}$ . Still later a left lateral curvature to spine developed.

*Treatment.*—At the onset of the disease the ice-bag was applied to the back of the neck and spine. A brisk purge was administered, and the fever and restlessness were controlled by cool sponge baths and alcohol rubs. After all acute symptoms had subsided, the patient was put on 1-40 gr. doses of strychnia, t.i.d. Applications of galvanism, massage, and warm baths were given daily. The case was then watched for a few weeks to see what improvements, if any, occurred.

The paralysis of the arms and the neck muscle soon cleared up, but efforts to prevent deformity of the legs were of no avail. The patient was then put to bed and a double Buck's extension was applied till the legs were straightened. I then turned the case over to an orthopedic surgeon, who measured her for braces and applied them to the legs to hold them in place and prevent further deformity. She was given crutches, and the day the braces were applied she walked four blocks. The crutches have now been discarded, and the patient walks about at will. The paralyzed muscles show a slight increase in size, and the improvement, though slow, is yet apparent when the case is seen from time to time.

## REPORTS OF SOCIETIES

### FREEBORN COUNTY SOCIETY

The Society met at Albert Lea on May 25th, with eleven members present.

The delegate was instructed to vote for the medical defense resolution, but no action was taken on Dr. Andrews' resolution.

The following were elected officers for the current year: President, Dr. J. P. Von Berg, Albert Lea; vice-president, Dr. J. P. Freeman, Glenville; secretary, Dr. O. E. Rodli, Albert Lea; treasurer, Dr. J. R. Nannestad, Albert Lea; censor, Dr. R. G. Stevenson, Albert Lea; delegate, Dr. W. L. Palmer, Albert Lea; alternate, Dr. J. P. Von Berg, Albert Lea.

O. E. RODLI, M. D., Secretary.

### THE INTER-STATE MEDICAL CLUB

The Inter-State Medical Club held its regular meeting at Breckenridge on Monday evening June 7th.

"Eclampsia and Its Treatment" was the subject of a paper read by Dr. L. W. Armstrong. The paper was discussed by Drs. Devine, Doleman, O'Brien and Meckstroth.

Following the transaction of routine business, "The Medical Practitioner and His Compensation" formed the subject of an hour's profitable discussion, and a committee was appointed to consider the subject more in detail and submit recommendations at the next meeting. The Club then adjourned to meet in Wahpeton, August 2d.

C. P. RICE, M. D., Secretary.

### KANDIYOHI-SWIFT MEDICAL SOCIETY

The Society met at Willmar, on June 9th, with nine members present.

"Diabetes Mellitus" by Dr. John C. Jacobs, of Willmar, was an excellent paper, which was well discussed and in which many practical points were brought out.

The medical defense resolution was thoroughly discussed, the members being unanimous in its approval.

The medical practice act was also discussed. All members believe that a physician cannot receive too good a preliminary education, but the two-years course in the college of science, literature, and arts was disapproved of for the reason that it will interfere with our reciprocity arrangements with other states. Our delegate was instructed as to the wishes of the Society.



On motion Dr. Andrews' resolution was placed on the table, the members feeling that gentlemen need no "blue laws;" to others they are of no use.

The following were elected officers: President, Dr. Hans Johnson, Kerkhoven; vice-president, Dr. John C. Jacobs, Willmar; secretary, Dr. G. A. Neuman, New London; treasurer, Dr. B. J. Branton, Willmar; delegate Dr. Christian Johnson, Willmar; alternate, Dr. E. H. Frost, Willmar.

G. A. NEWMAN, M. D., Secretary.

#### THE MITCHELL (S. D.) DISTRICT SOCIETY

The Society met at Mitchell on June 7th, with twenty members present. Papers were read as follows: "Typhoid Fever," by Dr. H. C. Shouse; "Post-partum Hemorrhage," by Dr. W. R. Ball; "Several Cases of Meningitis," by Dr. E. W. Jones; "Friederich's Ataxia," by Dr. J. A. Howard.

The papers were discussed at length, and the meeting was a very profitable one.

W. R. BALL, M. D., Secretary.

#### CENTRAL MINNESOTA SOCIETY

The Society met at Cambridge on May 19th, with ten members present.

Dr. H. C. Cooney, of Princeton, read a paper on "Suprapubic Operation for the Relief of Bladder Calculi; and Removal of Diseased Prostrate Glands." The paper was discussed at length.

The meeting was held at the residence of Dr. O. W. Sterner, and the Society tendered him a vote of thanks for his kindly hospitality.

The next meeting will be held at Princeton, Wednesday, August 25th.

A. J. LEWIS, M. D., Secretary.

#### LYON-LINCOLN COUNTY SOCIETY

The summer meeting of the Lyon-Lincoln County Society will be held at Tyler, July 6th. The following is the program:

"Clinical Cases," by Dr. A. J. Cox and B. C. Knudson.

"The Empty Intestinal Treatment of Typhoid Fever," by Dr. A. D. Hard.

"Some Affections of the Liver, Secondary to Those of the Appendix, with Report of Autopsies," by Dr. A. D. Hoidale.

"The Abortionist," by Dr. W. W. Wakefield.

"Treatment of Pneumonia," by Dr. E. T. Sanderson.

"Things Medical and Political," by H. M. Workman.

H. M. WORKMAN, M. D., Secretary.

#### HENNEPIN COUNTY SOCIETY.

A regular meeting of the Society was held on June 7th, with thirty-one members present.

Dr. H. W. Jones presented a clinical case, as follows:

I have a very interesting case here to demonstrate,—a little girl eight years old. She was well up to November, 1907; then she had a slight fever, and was home from school a couple of weeks, although most of that time she was not sick. No fever except the first day or two, and no pain; then she went back to school. After she went back, the right foot jerked up a little; then it grew worse, and in three or four days she could not walk at all; then gradually a difficulty of speech came on until Christmas time, 1907, when she could not speak. She gradually got a little better, but never has been able to walk up to the present time, and I will show you her gait, and the appearance seems to me that she is an extreme ataxic. She cannot sit up in the chair because she is so ataxic. She has a good deal of nystagmus, and scanning speech. She probably will not speak, but when she speaks, she speaks in a slow, drawling way: No—sir——, and is probably a case of multiple sclerosis with the prominent symptom at this time being a cerebellar ataxia.

Dr. R. J. Hill, for the Censors, reported favorably upon the following:

Dr. Falk Tennyson, Dr. C. M. Oberg, Dr. H. L. Knight, Dr. F. C. Wheat, (transferred from Southwest Society), and they were duly elected.

The following names were presented for membership: Dr. Paul A. Higbee, Dr. Albert E. Higbee and Dr. J. H. Hennekins.

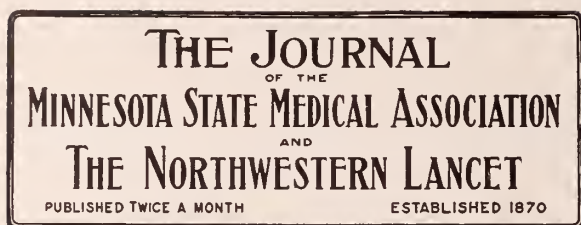
Dr. A. E. Anderson read a paper on "Dietetic Indications." The discussion was opened by Dr. W. D. Sheldon, followed by Dr. C. F. Nootnagel, Dr. J. W. Bell, and Dr. J. W. Rutledge.

Dr. Emil S. Geist read a paper on "The Patella," and the discussion was opened by Dr. Gustav Schwyzer, followed by Dr. Archa E. Wilcox, Dr. R. E. Farr, and Dr. Norman Dreisbach, after which, Dr. Geist gave his closing remarks.

The President announced that on account of the Society having a membership of 306, it would be necessary to elect a seventh delegate and alterate to the State Society, and asked for nominations for the positions.

Dr. Crume nominated Dr. Geo. F. Roberts for the position of delegate. The nomination was seconded by Dr. J. W. Bell, and carried. Dr. W. D. Sheldon was nominated as alternate, and he was elected.

C. H. BRADLEY, M. D., Secretary.



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JULY 1, 1909

## THE AMERICAN MEDICAL ASSOCIATION MEETING

The year 1909 will not be remembered as a banner year for attendance in Atlantic City, but for scientific work, programs, and section interest, the meeting was a success. The number of registrations was about 3,100—more than one thousand less than when the meeting was held in Chicago. Other Atlantic City meetings have shown greater numbers than this year. No explanation can be given for the falling off, as the organization is greater than ever, and is constantly receiving new members.

The usual weather did not prevail. In place of sunshine, the week was marred by rain and fog. As bad weather had extended all over the country, it was supposed that it prevented many from taking the long journey. Medical men are not infrequently discouraged, or apathetic, when medical societies are in progress, and this year was not one of the exceptions.

The general meeting on Tuesday morning, the opening day, was as alive as ever, and the officers, new and old, foreign guests, and notables were accorded a warm reception. There was a

quiet move on foot, directed against the General Secretary, Dr. Simmons, but his presence called for the loudest and most vehement applause. The House of Delegates were evidently exceedingly friendly, and expressed their gratification when he was presented with a magnificent gold watch, and granted a three months' leave of absence in order to take a trip abroad. The opposition toward him faded into the misty air of the ocean, and it seemed as if he and his associates were more cordially endorsed than ever before.

The membership of the Association on May 1, 1909, was 33,935, a net gain of 2,592, notwithstanding the fact that 200 members have died, 1,439 have resigned, 484 have been dropped for non-payment of dues, 200 have been dropped as not eligible for membership, and 55 names were reported as "not found." The membership of the various state societies has increased amazingly in the past ten years, varying from 132 per cent to 1043 per cent. This alone is sufficient endorsement of the policy of the organization.

Each of nineteen states owns and publishes an official state journal; eight states recognize certain journals as "official organs," and but few of the remaining states adhere to the nearly obsolete publication of transactions. Evidently, these will be discontinued within a short time, as it is conceded that the profession rarely consults these publications, and they are generally carelessly put together.

The various committees of the Association are making searching inquiries into all things in which medical men are interested, such as "patents and trademarks," "uniform regulation of membership in county and state societies," "principles of ethics," "conservation of natural resources," "defense of medical research," "advancement of science," and "drug reform."

Dr. Thomas McDavitt, of St. Paul, is chairman of the Committee on Uniform Regulation of Membership in County and State Societies, and Professor Frankforter, Dean of the School of Chemistry of the University of Minnesota, is a member of the Council of Pharmacy and Chemistry.

These various committees are overwhelmed with work, which is largely educative, and the result of their labors is not, as yet, keenly appreciated by the profession.

The Committee on Medical Legislation are moving their forces for the creation of a National Bureau of Public Health to be represent-

ed by a cabinet officer. State legislation in the last year is paving the way for something greater, and it is gratifying to learn that the general public are slowly absorbing the fact that the medical profession is trying to better health conditions throughout the land, and not trying to advance the commercial side of medical men.

The antivivisection bills, introduced in many states, were defeated, which shows one of the results of a campaign of education.

A uniform bill for the regulation of the practice of medicine has been under discussion for some time, and ultimately a bill will be formed that will be acceptable.

The Council on Medical Education has done an enormous amount of work, and has encouraged many colleges to extend their courses, and elevate their entrance standards. Minnesota stands well up to the front in this work, and was quoted as an example for other states to follow. The epidemic of "merging colleges" goes on, and is likely to spread over the land. The advanced requirements in a few schools has stimulated many others, and the day will soon come when one examining board will determine the fitness of all applicants, in every state, regardless of the kind of therapy they may choose to employ.

There is an earnest endeavor to stamp out ophthalmia neonatorum, judging from the vast amount of literature and inquiries that have been spread over the continent.

The Committee on Scientific Research have paid out \$1,250 to men who have done original work, and there is a strong probability that a larger sum will be invested in a large newspaper syndicate to distribute articles of a popular sort that will be helpful and instructive to the reading public, who should be informed as to certain matters essential to the preservation of health.

The Section work of the Association was above the average, not only in the program subjects, but in discussion and attendance.

The social side of the Association varies from year to year, and when the meetings take place at such a place as Atlantic City there is less interest in dinners, etc. The general reception to the president-elect was, as usual, a great crowd of overdressed, underdressed, and quaintly dressed men and women, and while the dancers danced the "band played on."

The meeting next year at St. Louis will bring the middle and far West, as well as the Southern delegates, into line, and the Eastern men

will satisfy their longings for medical knowledge by attending the triennial congress in Washington.

The election of Dr. William H. Welch, of Baltimore, as president was a deserved honor to a deserving man.

## SCHOOL INSPECTION AND BACKWARD CHILDREN

In at least three Section meetings of the American Medical Association papers were read on the above subject in some of its phases.

The question of medical inspection of public-school children was presented in no uncertain tones, and statistics containing valuable information were quoted to enforce the needs of the sick and the well. The number of states that have adopted school inspection was surprising, and the number of cities that have, for years, carried on the work in a satisfactory manner should cause other cities, like Minneapolis, to hang their alleged educational heads in shame.

The segregation of backward children, and the advance of the bright child, is a necessity that no scientific man will deny; yet there are school boards who, from one pretext or another, put off the examination of children until it is almost impossible to overcome the damages of delay.

Primarily, the work of inspection should begin at the foundation; that is, the inspection of the foreign classes who, not infrequently, blockade a whole school system.

It has been argued that closer examination of the immigrant would materially assist in eliminating the undesirable backward children, but it has been shown that such a system at our ports of entry is not feasible under our laws. The better plan would be a more rigid inspection of the immigrant before embarkation from foreign lands. This can be accomplished only by international laws.

The number of backward children in our schools can be reduced, even under the existing conditions, by the separation and education of the unfit from the fit, if our educators could be made to appreciate the urgent necessity of such a procedure.

The fact that a few backward children often retard others, and thereby increase the cost of education of both classes, does not seem to appeal to our Western school officers. They do not understand that there are grades of children that cannot travel the same educational pathway. Boards of education can be excused only on the grounds of ignorance of the situa-



tion. The medical profession are very apt to infer that public men who assume the duties of school boards are reasonably familiar with elementary medical facts, but a thoughtful study of such boards will convince the medical man that the education of transient and passing members of these same boards is practically impossible. When teachers of medicine realize how difficult it is to teach medical students the elements of medicine, they will understand how much more difficult it is for men without any medical insight whatever to understand the urgency of medical inspection of school children. It is quite true that in some cities school boards are willing to be guided by medical advisers, but in many cities, alas and alack! the boards of education know, or think they know, how to deal with various branches of education and its underlying defects.

New York City, particularly, and other cities, have come to realize the necessity of special schools for retarded children, and their investigations have shown them the value of medical inspection, and the economic value of training those who are deficient by specially trained teachers.

The burden of the backward child is made lighter, and the work of the regular and special teacher is more efficient, under the newer system of education.

While boards of education are wrestling with political issues, financial problems, building schemes, and other dark subjects of which they know little, teachers are working on lines on which they are trained, but at a disadvantage, all because the higher powers are crowding them, and crushing the limited energies of a few by trying to force them to keep pace with the keen and alert child. The situation is a perilous one, and can be met only by experts,—those who can bring order out of disorder. It is too much for a business man to attempt. The education of the child is one that demands the attention of trained educators, not alone teachers, but sociologists and physicians.

Until the whole plan of education is changed we must expect mediocre results.

A striking result is found in a private school started in Philadelphia a few years ago by a physician—really a psychologist. A teacher who had seen the impossibility of educating a defective child was led, either by curiosity or insight, into consulting a psychologist. The child was discovered to have physical defects that were removable, and a few weeks of observation

and hospital care demonstrated the wisdom of this plan. The child made a prompt recovery, and was permitted to re-enter the public school. This led the teacher and psychologist to experiment with other children, and the result was so surprisingly successful that a school was founded, and now a certain type of backward children are sent for diagnosis, observation, and preliminary training in this school, and are either returned to the public schools from which they were received, or are sent to the schools for backward children.

This one lesson has sufficed to convince the Philadelphia Board of Education that there is much wisdom in school inspection and in training the backward child.

One statistician, in writing on the problem of the backward child, has gone so far as to insist that boards of education shall have an advisory board of physicians who shall determine the fitness of the children, the character of the work they are capable of doing, and have supervision over their studies, and their hours of work and play. This may seem a very radical measure to the average school board, but for the trained educator, and particularly one who is familiar with the results of medical inspection, it would seem a step in the right direction. But all of these conditions, which look ideal to the average lay mind, can be realized only after a long process of education, not only of school boards, but of the public in general.

#### MINNEAPOLIS MUNICIPAL HOSPITAL

The authorities of Minneapolis are still wavering as to the proper course to pursue in the selection of a physician to take care of the sick poor of Minneapolis. The recent upheaval at the City Hospital has called attention to the necessity of very careful selection of the directing officer.

Municipal hospitals are very apt to suffer from complaints and unnecessary investigations unless they are under the supervision of an authority who has full control and direction of the management. The Board of Corrections and Charities, like all boards, made mistakes in their endeavor to economize when economy was harmful. The better institutes have shown, by years of experience and study, that the poor should be as well cared for as the patient who pays for his attention in a private hospital, and they should have the same consideration shown them, and be surrounded by the same comforts and

necessities, as well as the latest scientific equipment.

Economy in foods and comforts is the poorest possible policy, and evidently that is one of the lessons which the Board of Corrections and Charities have learned from the recent Minneapolis Hospital disturbance.

The blame should not be attached to the City Physician alone, because he often labors under the greatest disadvantage, or perhaps is required to make a financial showing that will satisfy those in control.

It is gratifying to learn that during the past six weeks, while Dr. Archa Wilcox has been temporarily in authority, the Board of Corrections and Charities have been more liberal in their policies, and have been more lenient in their treatment of the City Physician. As a result of this change of heart, the discipline of the hospital has improved in every way.

The Board of Corrections and Charities deserve a great deal of credit for the incorporation of Hopewell Hospital for tuberculous cases, as well as for the establishment of a dispensary for the outdoor treatment of incipient cases. Hopewell shows very plainly what can be done when a liberal policy is adopted. It compares favorably with any institute of its kind in the country, and its results are equally gratifying.

The Board of Corrections and Charities is to have a meeting at an early date, and perhaps the meeting will be over and done with before the appearance of this editorial, but it is hoped that they will be careful and broad-minded in their selection of the next City Physician.

It surely is time for politics to be divorced from the management of the City Hospital, and it would seem that the recent experience of the Board demonstrates the necessity of selecting a man who has had hospital experience, who is active and energetic, and who has a personality that is pleasing and inspiring.

Every year or two the question of a city physician comes up for discussion, and it is lamentable that some other means cannot be secured for the appointment of a suitable man who will not feel that his term of service will be abruptly ended at the expiration of the mayor's term of office.

The St. Paul City and County Hospital and its management are so far ahead of anything we can expect here (at least, for some years) that it would do the Board of Corrections and Charities a world of good to look over the St.

Paul plan, and get some of the inspiration of the St. Paul City and County physician, Dr. Arthur B. Ancker.

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## NEWS ITEMS

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### NOTICE

The date of the next annual meeting of the Minnesota State Medical Association has been changed from October 5-7 to October 12-14.

Dr. J. D. Gilbert has located at Carlton.

Dr. J. J. Mertens has moved from Lebanon, S. D., to Gettysburg, S. D.

Dr. R. V. Williams, of Rushford, has gone to Europe for special study.

Dr. George M. Sewall, a 1909 graduate of Hamline, has located at Ogilvie.

Dr. A. G. Schulze, of Carlton, has become associated with Dr. Bagley of Duluth.

Dr. E. A. French, of Plainview, and Miss Mabel Rockwell were married last month.

Dr. G. N. Richards has moved from Chamberlain, S. D., to New Underwood, S. D.

Dr. C. W. McDade, of Ceylon, has purchased the practice of Dr. J. F. Plehn, of Bellingham.

The Rood hospital building at Chisholm will be ready for occupancy some time this month.

The contract for the new building for the Northern Insane Hospital at Redfield, S. D., has been let.

Dr. J. F. Plehn has moved from Belle Plaine to Minneapolis, and is located at 2436 Bloomington Ave.

Dr. G. J. Long, of Chicago, has accepted the position of head interne in St. Luke's Hospital of Aberdeen, S. D.

Dr. Hiram I. King, of Aberdeen, S. D., was married last month to Miss Jessie Parden, of New Richmond, Wis.

Dr. Clara M. Luther, of Minneapolis, has returned from Europe where she has been studying suggestive therapeutics.

Dr. H. C. Cooney, of Princeton, has purchased a large dwelling house which he will use for hospital purposes.

Dr. H. O. Altnow, who has been on the staff of the N. P. Hospital at Brainerd, has taken up general practice at Arlington.

Drs. Judge & Humphrey, of Moorhead, have dissolved partnership. Dr. Judge will be absent from the city for some months.

The Minnesota State Normal School Board will appoint a medical inspector for each of the five normal schools in the state.

Dr. W. W. Wood, of Jasper, has formed a partnership with Dr. Movius, of Flandreau, S. D., and they will locate in Jamestown, N. D.

Dr. J. M. Egan, who has had charge of the hospital at Lidgerwood, N. D., has located in Minneapolis, with offices in Masonic Temple.

Dr. G. J. Jacquot, a 1908 Hamline graduate, was married last month to Miss Colice Lee, of Rush City. Dr. Jacquot is located at Ivanhoe.

Dr. F. A. Spafford, of Flandreau, S. D., and Dr. C. A. Butler, of Dell Rapids, S. D., have gone to Europe, and will spend some time in the clinics of Berlin.

Drs. Monahan and Osborn, of Blackduck, will build a hospital at International Falls where they have made a long-time contract for the care of the employees of two large power and lumber companies.

The following are the new internes at the St. Paul City Hospital: Dr. Philip McIntire, Dr. Charles H. Zander, Dr. Ray Healy, Dr. Henry E. Meyerding, Dr. Mathias Sundt, Dr. J. Douglas Walker, Dr. N. G. Martensen and Dr. Clement C. Blakely.

Dr. W. P. Lee, of Fairfax, has taken into partnership Dr. G. H. Walker, State University, '08, who has served as interne in St. Luke's Hospital, St. Paul, for the past year. Dr. Lee will spend the next year or eighteen months in post-graduate work, and then Drs. Lee & Walker will erect a modern hospital at Fairfax.

Dr. N. A. Nelson, of St. Paul, and his son, Dr. M. S. Nelson, who has been an interne in St. Barnasbas Hospital, Minneapolis, for the past year, have purchased the practice and hospitals of Drs. A. J. Lewis and W. S. Titus at Mora. One of the hospitals will be closed, but the other will be continued and improved.

#### PHYSICIAN WANTED

Excellent opening in a North Dakota town on the Soo Line for a Scandinavian doctor. No competition nearer than 16 miles. This is an opportunity worth looking up. Address R. N., care of this office.

#### BOOKS, INSTRUMENTS, ETC., FOR SALE

The books, operating-table, electric battery, and other instruments; and some drugs of the late Dr. Duncan, of Fergus Falls, are offered for sale at moderate prices. For information address Mrs. W. T. Duncan, Fergus Falls, Minn.

#### SUBSTITUTE POSITION WANTED

A competent physician of many years' experience, speaking German, desires to take the practice of a physician who is in need of a substitute during his vacation. Address G. H., care of this office.

#### SUMMER WORK WANTED

A physician, graduate, June, 1908, with good surgical experience during the past year, desires a position as assistant to a surgeon or general practitioner during the summer. Good references. Some remuneration desired. Address K. M., care of this office.

#### SERVICES OFFERED

I will consider a position as locum tenens for the months August and September. Have had 15 years' experience as general practitioner. For terms, references, etc., address A. J. Lewis, M. D., Mora, Minn.

#### PHYSICIAN WANTED

A Scandinavian physician to locate in a Wisconsin town of 400, fifty miles from St. Paul. Address C. J. R., care of this office.

#### FOR SALE

On account of illness and leaving the country, I will sell all my ear, nose and throat instruments, and an Allison's cabinet and two Cautey batteries, and my medical books including a very fine medical encyclopedia. Address Dr. B. M. Behrens, No. 5 East 25th St., Cor. of Nicollet Av., Minneapolis.

#### PRACTICE FOR SALE

An ideal country location in Minnesota; business ranges from \$250 to \$500 a month; easily held by right man; no opposition; good prairie country; fine people; good pay. To a responsible man will sell for \$3,000 including real estate—\$1,000 cash and balance on time. Do not write unless able to buy. Address C. R. H., care of this office.

#### FOR SALE OR EXCHANGE

A six-inch induction coil suitable for x-ray or wireless telegraphy. Will sell for cash or will exchange for a first-class Victor phonograph. Address W. E. Stevens, 410 E. 14th St. (Flat 9), Minneapolis.

#### PART OF OFFICE FOR RENT

A splendid opening is offered for an eye and ear specialist to share the office with an old-established general practitioner and dentist in Minneapolis. Address A. M., care of this office.

#### OFFICE FOR RENT

A well-equipped office in the New Jersey Building, Duluth, is offered for a part of each day. Address Dr. C. D. Conkey, Duluth.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists, Phones: N. W., East 9381; T.-S. 16449. Minneapolis, Minn.



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## CONGENITAL SYPHILIS\*

BY FRANKLIN R. WRIGHT, M. D.

MINNEAPOLIS

That syphilis can be inherited is a fact well known by the laity and recognized by the entire medical profession. That a child may inherit syphilis from its mother is never questioned; but professional opinion is divided on the question whether or not a child can inherit syphilis from its father, the mother being healthy. Much has been written on this subject, but the division of opinion still exists. Long series of cases have been collected in which the syphilitic father and the syphilitic child, with a healthy mother, apparently prove that syphilis can be transmitted by the father.

The Opponents of this theory answer that these women are only apparently healthy, but are in reality syphilitic; that they have a latent syphilis; that it is impossible to prove absolutely that they are free from the disease. That 85 per cent of the mothers of syphilitic babies have syphilis, and that the remainder are immune to syphilis, is admitted even by believers in the paternal transmission of syphilis. It is claimed by those who do not believe in paternal transmission that all these mothers have syphilis.

The past few years have furnished the non-believers two facts which add strength to their argument. It has been shown that a woman known to be syphilitic may bear either a diseased or a healthy child; that is to say, a woman known to be syphilitic, showing no signs of syph-

ilis, may this year bear a healthy child, and next year, having in the meantime shown no symptom of the disease, may bring a diseased child into the world. Matzenauer, of Vienna, says: "A woman may transmit syphilis to her offspring as late as twenty years after her infection." The second fact is the discovery by Schauden and Hoffman of the *spirochæta palida* and its recognition as the cause of syphilis. Since this discovery, this germ has been demonstrated in a lymphatic gland taken from a supposedly healthy woman who was the mother of a syphilitic child, thus proving her to have latent syphilis.

Inherited syphilis manifests itself by disturbed nutrition or by the production of lesions, which we know as specific or syphilitic. It is a much severer disease than acquired syphilis, the death-rate being from 70 to 80 per cent, while death from acquired syphilis is a rarity. This is easily understood when we remember that it attacks a developing organism, which can furnish little or no resistance, and which consequently may be modified during formation, the modification being in quality, and not in the form of tissue produced. In severe cases nutrition may be so badly disturbed that the child will die en utero, and after three or four weeks a maserated fetus, which may or may not show signs of syphilis, will be expelled. In less severe cases pregnancy will terminate in the premature delivery of a miserable, thin, scrawny, poorly nourished, living or dead baby. If living, these premature

\*Read before the Hennepin County Medical Society, May 3, 1909.

babies usually die within a few hours or a few days.

A third class of cases are similar to those last mentioned, but are born at full term. They are thin and scrawny; their skin is wrinkled and loose; the subcutaneous layer of adipose tissue appears to be entirely wanting; the expression of the face is that of an extremely old person; the voice is weak—hardly audible, but hoarse and harsh. These babies frequently have coryza, which may be so severe that the baby cannot breathe through its nose. This makes it difficult for them to nurse, as they must let go the nipple in order to breathe. If these children live, they are backward, slow in learning to walk and talk, and get their teeth late. The teeth are apt to be the barrel-shaped, with the notch along the cutting edge, described by Hutchinson and known as "Hutchinson teeth." They reach the age of puberty late. Mentally, they develop slowly.

Congenital syphilis that manifests itself otherwise than by disturbed nutrition, does so by the production of the same symptoms that characterize acquired syphilis. These symptoms may be present at birth, or the child may be born in apparently perfect health and show its first sign of syphilis after a few days or weeks. As a rule, the later the symptoms develop after birth the lighter is the course of the disease. Any child that is born strong and apparently healthy and of normal weight, and shows no symptoms of syphilis before three months, must be considered free from this disease. Should this child develop symptoms after three months of age, the disease has been acquired since birth and should not be classed as congenital.

The course of congenital syphilis is irregular. Gummatous lesions appear very early, both in the skin and internal organs, often occurring with the first appearance of the disease. The eruptions, which occur on the skin, are the same as those of acquired syphilis, namely, macular, papular, and pustular, and the diffuse infiltration of the skin is characteristic of congenital syphilis. The macular eruption may differ from that of acquired disease in the size of its individual lesions, which are apt to be larger, often reaching the size of the finger-nail, and in location, the eruptions appearing, not only on the body and flexor surfaces of the extremities, but also on the palms and soles, in the genito-anal region, on the flexor surfaces of the joints, and on the face.

The pure papular eruption is seldom seen, the papules being usually distributed between the lesions of the macular and the pustular eruption. The papules, which are large, may be found on almost any part of the body, but they occur most frequently on the palms and soles. If they occur on parts of the skin which are constantly moist, as the genito-anal region, or the flexor surfaces of the joints, they are apt to become maserated by heat and moisture, and present an eroded and moist surface. Under these conditions the papules may become hypertrophic and take on a character similar to the condylomata in the adult.

The pustular syphilid of congenital syphilis shows itself usually as the condition described as pemphigus syphiliticus neonatorum. It also occurs on the palms and soles, and only in exceptional cases do the lesions occur on other parts of the body. The lesions begin as large flat papules; after a few days the epidermis covering these papules will loosen, and underneath it a thin, watery pus accumulates. The pustule thus formed is flat, loose, and flabby, and never covers entirely the underlying papules. The uncovered portion of the papule is seen as a dull, reddish-brown ring entirely surrounding the pustule. After a few days the contents of this pustule are absorbed, and the loosened epidermis falls away, uncovering the papule that has formed its base. These pustules are usually the size of an ordinary lead-pencil, but may, however, reach the size of a dime or a nickel. In those cases where the eruption is present at birth or occurs early, or in which the pustules are large, the outlook is poor. The prognosis in these cases is always unfavorable, but less so in cases where the eruption occurs late, and the pustules are small in size. Pustular syphilis may occur also in the form of an impetigo or rupia scattered over the scalp, breast, thighs, and nates.

Diffuse filtration of the skin is peculiar to congenital syphilis. This diffuse filtration is not formed by the confluence of a number of flat papules, but begins with an erythematous stage, followed by an infiltration of the erythematous area. This process begins with the appearance of round, red, or yellowish-red spots, varying in size from that of a nickel to that of a silver half-dollar. These spots are not raised above the level of the surrounding skin. They spread peripherally, and slowly change to a dark-red or reddish-brown color. The skin in this reddened

area becomes gradually infiltrated and loses its elasticity. As the infiltration becomes marked, the markings on the surface of the skin are obliterated, and the skin assumes a smooth, shiny appearance. Under prompt treatment this infiltration disappears without scaling, but if the lesions have existed for a long time, in healing the large scales of epidermis are formed. This is particularly true of the palms and soles. Cracks and fissures often occur, due to folding or motion in the infiltrated, inelastic skin; and large denuded areas may appear where the skin is kept moist and warm. These infiltrated areas occur most frequently on the palms and soles, on the face about the mouth, at the angles of the nose, on the scrotum, and on the nates. These lesions occur most frequently during the second and third month, seldom earlier than the

third week, or later than the third month.

Coryza is one of the most frequent and often the only symptom of congenital syphilis. It may be present at birth or develop after a few days. There is a discharge from the nostrils of a mucopus, which may or may not be streaked with blood. The mucous membrane in the nose is infiltrated and thickened, making it difficult, and often impossible, for the child to breathe through the nose. This condition may exist for months. It is often rebellious to treatment, remaining long after all other signs of the disease have disappeared.

As a rule, the mouth and pharynx of these babies are free from signs of disease.

The prognosis in these cases is always unfavorable. Eighty per cent of these babies die in infancy.

## STOMACH PAINS\*

BY WALTER ZWEIG, M. D.

Specialist in Diseases of the Stomach and Intestines

VIENNA, AUSTRIA

TRANSLATED FOR THE JOURNAL-LANCET BY M. J. KERN, M. D., ST. CLOUD, MINN.

The close relation of the stomach to neighboring organs and the great prevalence of diseases of the stomach itself, make it obvious that we should meet so frequently with the symptom of so-called "stomach pains." It will therefore be in place, honorable gentlemen, to bring before you in discussion all those various conditions which are productive of stomach pain.

We find these pains, first, in diseases of the stomach itself, and, second, in diseases of its neighboring organs.

In diseases of the stomach we find pain caused by (A) true organic gastric changes and (B) by functional gastric derangements or so-called neuroses.

A.—*Stomach pains in organic diseases of the stomach.*

1. In this class comes foremost the pain which is based on the existence of an *ulcus ventriculi rotundum*. The pain begins about thirty to forty-five minutes after taking food, is more intense after the ingestion of solid than liquid articles of diet. Abnormally cold or hot nourishments also excite the gastric pain. Very often it

radiates to the back and has a burning, sore-like, spasmodic, or cramp-like character.

With an empty stomach it may be entirely absent. It is important to know the dependence of the pain on the position and posture of the patient, the pain being usually more endurable in the quiet dorsal position and more intense on lying on the right side.

2. Pain in gastritis hyperacida.

In most cases of chronic gastritis there is a beginning stage in which the glands of the gastric mucosa produce an increased quantity of gastric juice. In this stage we get, apart from the usual signs of stomachic catarrh, symptoms which remind us of hyperacidity.

After taking a principal or full meal we find a sense of pressure and fullness in the epigastrium, which increases as the process of digestion goes on and becomes to be a real pain about three or four hours after the meal, with sour eructation and heartburn.

3. Pain of *achylia gastrica*.

In this condition where we have a total absence of HCl and ferments, we find pain lancinating and paroxysmal in character usually about two or three hours after a full meal. Ac-

\*Read before the American Medical Association of Vienna, March 20, 1908.



According to Einhorn this pain is due to the mechanical irritation of the sensitive stomach mucosa by the solid unliquified articles of food. The similarity of these painful attacks to those of hyperacidity can lead to a confusion of these two diametrically opposed secretory disturbances, and a diagnosis should therefore be made conclusive only by the findings of the analysis of the stomach-contents.

#### 4. Pain in carcinoma ventriculi.

The pain in carcinoma of the stomach is a most varying and inconstant symptom. It can be entirely absent, especially so in carcinoma of the fundus and small curvature. Often it is dragging and burning, begins in the epigastrium, and radiates to the back, and is not dependent on the ingestion of food.

#### 5. Pain in dilatatio ventriculi.

In the true dilatation of the stomach, consequent to stenosis at the pylorus, we find pain whose causative factor is the increased peristalsis of the stomach. (Magensteifung.)

These abnormally increased peristaltic waves of the gastric musculature, by which the stomach endeavors to overcome the stenosis and which give the sensation of painful contraction, most intense at the height of digestion (three to four hours after eating), have also a colic-like character, and cease suddenly after the appearance of vomiting.

B.—*Pains in functional diseases of the stomach.*

#### 1. Pain due to superacidity.

In this condition the pain is based on the abnormally increased sensitiveness of the gastric nerve filaments to free HCl. (HCl hyperesthesia of Tolma). The pains appear three to four hours after a full meal and are relieved by taking more food or soda bicarbonate. At night the patients are usually free from pain, while it is especially intense after the ingestion of such articles of food as increase the acidity of the gastric secretion (alcohol, coffee, sour and highly seasoned food, fruit, etc.)

The pain frequently is cramp-like, as the super-acid gastric contents at times lead to spasms of the pylorus.

#### 2. Pain in hypersecretion.

We differentiate three types of hypersecretion, viz.: the constant (gastrosuccorhea), the alimentary, and the intermittent hypersecretion.

a. The constant hypersecretion rests upon the fact that the gastric glands without interruption, even with an absolutely empty stomach, produce gastric juice, so that in the morning in an empty stomach more than 50 c. c. of pure gastric juice can be demonstrated.

The pains in this condition have a marked similarity to those of hyperacidity, but the pains of the former (constant hypersecretion) are characterized by appearing in the form of nightly attacks. The patient awakes usually about 2 or 3 o'clock in the morning with very intense pain in the stomach, which often subsides after the patient rids himself of the sour stomach-contents containing fluid elements relatively much in excess.

#### b. The alimentary hypersecretion (Zweig).

In this abnormal state the glands in the stomach mucosa rest while the stomach is empty, but on the ingestion of food they secrete an abnormally large quantity of gastric juice. The pains have the same character as those of superacidity, but also frequently come on at night (several hours after a full meal). They seldom lead to vomiting and usually subside on the administration of soda bicarbonate or belladonna.

#### c. Pain in intermittent hypersecretion.

The pain of intermittent hypersecretion manifests itself in the form of attacks in which, without preceding dyspeptic symptoms, we observe intense gastric pain accompanied by vomiting. The attacks are independent of food ingestion, have a cramp-like character and a most marked intensity.

The most cases of this ailment belong in the picture presented by tabis dorsalis, and are identical with the crisis gastrique, which are often the first symptom of tabis, indeed at a time when no other symptoms can yet be demonstrated.

#### 3. Pain due to gastroptosis.

The dislocation of the stomach downward causes a pulling on and stretching of the sensitive nerves emerging from the celiac plexus and running into the walls of the stomach. We find pains which are felt especially when the stomach is filled and when the body is in the erect posture. They disappear on lying down, are independent of the food quality, and have a dragging character.

By means of the adhesive bandage, as advocated by myself, we can correct the dislocation of the stomach after which procedure the pains

promptly disappear, and the patient can again eat and live in comfort.

Objectively, we find a circumscribed point of tenderness over the vigorously pulsating abdominal aorta.

The differential diagnosis to gastric ulcer is often very difficult, as also in this condition we are usually dealing with lean and anemic girls.

An important differential diagnostic point is the location of the tender spot relative to the location of the stomach. In gastropptosis the tender point is entirely outside (above) the stomach area, (the position of the stomach we easily prove by inflating the same), and in gastric ulcer the tender point is within the area in which the stomach lies.

#### 4. Painful gastric emptiness.

This pure "Nervot," this symptom accompanied by hyperacidity, is especially distressing, and consists in this, that such ailing individuals are suffering constant gastric pain when they are not eating, consequently, these patients are eating all day without interruption, which naturally and easily can lead to organic dilatation.

A proper "traitment morale," by means of which we can make the dangers of constant treatment of their stomachs plausible to these sufferers, usually leads to the desired result.

#### 5. Nervous gastropspasm.

The diagnostication of genuine nervous gastropspasm is exceptionally difficult, and a diagnosis should never be made unless all other causes of gastric pain can be excluded. Although I am not of the opinion of Cohnheim, who denies the occurrence of nervous gastric pain entirely, I still believe that we should be most careful in making a diagnosis of this condition.

Especially important is the manner in which the patient describes these pains. They use at times bizarre expressions, such as "sensation as if a live animal was turning around in the stomach," "sensation of scraping, etc." The dependence or relation of the pain to excitement or grief also makes the diagnosis of nervous stomach pain as probably a correct one.

Diseases of neighboring organs.

##### A. Intestines.

#### 1. Ulcus duodeni.

Pains of *ulcus duodeni* appear two to three hours after eating and stop after ingestion of more food. This phenomenon rests upon the fact that after eating the pylorus closes, thereby preventing the acid stomach-contents from coming in contact with the ulcer. After several hours

the pylorus opens and the acid gruel passing over the ulcer calls forth the symptom of pain.

This has a great similarity to hyperacidity, but the existence of an ulcer is more probable when we find occult blood in the stools and no blood in the gastric contents.

#### 2. Epigastric hernia.

Small omental and subperitoneal-fat hernias in the *linia alba* very often call forth decided pain, which is intensified by the filling of the stomach and often suggests to us gastric ulcer.

In this condition one usually finds a tumor the size of a cherry-stone in the *linia alba*, which, on coughing, increases in size and is very tender on pressure. I have seen most excellent results by treating these hernias with an adhesive-plaster bandage.

#### 3. Spastic obstipation.

Spastic obstipation leads to contraction of the large gut in the form of *corde colique*, *iliocecal*, *sigmoidal*, and *transverse*. The latter very often produces the sensation of stomach pain, even though the pain is in the cramp-like, contracted, *transverse colon* which one feels as a thick, cord-like, and painful mass running transversely over the aorta.

The pain is associated with obstipation and appears nearly always before or after bowel movements, which act results in the evacuation of small-calibered feces or the same in form of small spheres or globules.

The association of this pain with defecation leads one to the thought that the seat lies in the bowel rather than in the stomach.

#### 4. Chronic colitis.

Very often the pains present in colitis are designated as stomach pain. They are usually in their greatest intensity just before evacuation and have their origin as a rule in the spastic state of the bowel. A careful examination of the stools reveals band-like or glazy masses of mucus and clears up the diagnosis of enteritis membranacea.

#### 5. Chronic appendicitis.

One finds cases where gastric pain, independent of meals, is complained of, and where the cause of pain is in the existence of a chronic appendicitis.

These patients have been treated usually in all possible ways, based of course on as many diagnoses, until the elicitation of pain in *McBurney's point* clears up the real diagnosis of the condition. Very often these patients tell us that when pressure is made on *McBurney's point*

they feel pain in the stomach, and, *vice versa*, when pressure is made over the stomach pain is felt in the region of the appendix.

These cases, described by Ewald as appendicitis larvata, are by no means infrequent, and are promptly cured when the chronically inflamed vermiform appendix is removed.

Very likely some condition of the complex nerve connection between the stomach and the appendix is responsible for these abnormally localized pains of chronic appendicitis.

6. Cholelithiasis always produces gastric distress and is one of the most frequent causes of stomach pains. They come on periodically, are very intense and cramp-like in character, are independent of the ingestion of food, and radiate to the right hypochondrium and back.

During the time between attacks the patients are perfectly well, having no gastric distress whatever. Usually these patients are women who tell us that their mothers also suffered with stomach symptoms.

The puerperium predisposes to the first attack of cholelithiasis.

Icterus is present only in about 30 per cent of these cases, and then makes the diagnosis more certain.

We find a circumscribed area of tenderness over the region of the gall-bladder, and also in the back to the right of the spine at about a corresponding level.

Among other diseases of the liver producing so-called stomach pains may be mentioned the congested liver, hypertrophic scirrhus, and fatty liver. The cause of pain in these conditions lies in the painful stretching of the liver capsule.

#### B. Heart.

Arteriosclerosis and angina pectoris lead to gastric pains, which are felt while walking or climbing up stairs. These pains are usually independent of meals, are accompanied by palpitation; and arithmia and murmurs over the heart appear on auscultation. On the administration of digitalis, diuretin, and strophanthus these pains are promptly subsided. The usefulness of this therapy indicates to us the nature of the ailment and its consequent pains.

We see therefore from what has been said that the simple complaint by the patient of stomach pains, necessitates a complete analysis and thorough examination, and that only after taking the whole body into consideration are we able to interpret correctly an apparently simple symptom of stomach pain and instigate accordingly the proper therapy.

## IRREGULAR ETHICS, GRAFTS, AND FRAUDS IN THE PROFESSION\*

By J. A. HOHF, M. D.

TRIPP, S. D.

I intend to touch merely upon a few facts as they have come to me from personal experience and observation. I will refer, briefly, to a few historical data which show that irregular or unethical conduct was practiced by our ancient predecessors to a much greater extent than in our own time, by which we may take a hopeful view in that we are improving and may ultimately attain a satisfactory degree of perfection along these lines.

Galen, who lived in the second century A. D., freely denounced and criticised his contemporaries and yet followed closely in their footsteps, both in precept and practice. In the seventeenth century Robert Tabor, an apothecary and phy-

sician of Cambridge, introduced Peruvian bark or cinchona bark as a secret remedy into Paris, and after effecting the cure of the Dauphin he sold the secret to the Government of France for 2,000 louis. The obstetric forceps was invented by Peter Chamberlain, of London, early in the seventeenth century, but was kept as a family secret many years for private use, being restricted to the use of his sons and a few other persons also pledged to continue the secret; but in spite of the selfish and unjustifiable policy pursued by the Chamberlain family, the instrument became quite well known in England before the end of the century.

During the eighteenth century we find that a large proportion of the medical practitioners traveled about from one country to another

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claiming superior skill in the performance of important operations or the possession of remedies of unusual efficacy in the treatment of diseases. Most of these were ignorant or partially educated practitioners, charlatans, bombastic pretenders, and visionary theorists of every grade. Many of these evils and evil classes still exist, more or less, throughout all the countries. If we look about us we see there is scarcely a pathy or ism or theoretical dogma of the seventeenth and eighteenth centuries that does not have its followers among us, each in its own way bearing its trademark of fraud visible to those who are informed. We may include in these classes the Dowieites, Eddyites, Osteopaths, antivaccinationists, and those wearing the trademark of him who invented the two so-called universal principles, *i. e.*, "similia similibus curantur" and "the greater the attenuation of the dose, the greater the curative power."

We have men in our state who are defrauding the people in various ways. Take, for example, the man who has a guaranteed rheumatism cure. The treatment consists of injecting some secret formula into the victim's back or leg which produces a discharging ulcer for weeks and months, the patient being told that this discharge is the elimination of the rheumatism. The patient must, before treatment is begun, pledge and bind himself to the payment of \$100 or \$200 or more, according to his means. It would seem as if such things were impossible in this day among civilized people, but the credulity of some classes of people is yet unlimited when dexterously worked upon by quacks and grafters. Another form of treatment which I shall mention, and I do so only to condemn, is the injection method for the cure of hernia. If I am not mistaken, this method has been tested, tried, and found inefficient. If I am wrong in this I will bear correction. Sending to Europe for special medicines, which are in fact concocted in the physician's own filthy office, and charging from \$5 to \$15 per bottle, is another graft; guaranteeing for a stipulated fee the cure of certain female ailments; making unnecessary calls in order to increase the bill; demanding or accepting a division of the druggist's fees for medicine, as a bonus for prescriptions written, etc., are common forms of graft. Then we have the medicine venders, who travel through the country and by smooth words and glowing promises impose upon the credulity of the farmers, usual-

ly upon the farmers' wives, guaranteeing the cure of every malady. The guarantee is always in the form of a contract previously entered into and signed by the farmer, the chief feature of which is the agreement to pay a large fee. We have come into homes where the pantry shelves were loaded with large flasks of medicines left by these swindlers.

In the field of surgery we find many forms of grafting, but I shall mention only one. There are men who pretend to perform a certain operation, and charge for a major operation, but perform some minor or unimportant one. Perhaps they tell the patient that a large uterine tumor is to be removed, and then do but a simple curettage.

Some of these men are physicians in good standing, being members of a state and of the American Medical Association, and have given years of service to the profession.

There are various frauds which certainly border upon the ridiculous, such as joining some church or religious society or other organization for the sinister purpose of gaining popularity and professional influence. Such influence is neither very profitable nor constant, for, in the long run, people of all classes come to the physician because of the faith they have in his brains and skill, and not because he professes their creed or belongs to their clique. Pretense to being overrun with business by being in a hurry, by driving unnecessarily fast, appearing and disappearing with great swish, having one's self called out of church at the most solemn part of the service, sometimes called "the religious dodge;" wearing long hair or a peculiarly styled hat; showing unnecessary and affected kindness or attention; to pass for more than one is worth to get business; going away for post-graduate work and spending the time fishing or in some equally unimportant pastime; telling a patient that he is much more seriously sick than he really is, in order to impress him with the superior skill in effecting so speedy a cure; anything, in fact, to create a sensation and to get talked about—all of which shows a narrow, short-sighted mind. The reward of such a course is ridicule and disrespect, for every physician ultimately rises or falls to his proper level in the community.

There are various ways in which some physicians take a mean advantage of the one whom he has superseded; for instance, by reflecting

upon the medicine given; changing completely the diagnosis and the method of treatment without cause; or referring to him as only a young man and therefore inefficient; taking charge of a case previously in charge of the regular family physician without first having an understanding with the attending physician; bending every effort to retain the family upon being called in the absence of the attending physician, in case of emergency, etc.

Besides being morally and ethically wrong, these things are almost sure to make a professional antagonist, who, in retaliation, will watch with a malignant eye and strike back wherever opportunity offers. We are all human and more or less endowed with the spirit of "you strike me and I'll strike you." We lack in the proper education along these lines.

Every physician has his failures as well as his successes. There are those who, having worked wonders in treatment after others have failed, flaunt their triumph so as to wound the feelings or mortify the pride of their less fortunate predecessors. No man likes to be surpassed by men of his own level. There are physicians who tell a patient that they reached him just in the "nick of time;" had he been called a few minutes later it would have been too late. And we still hear, "the doctor gave up the patient,"—expressions as old as the hills, time-worn and threadbare. What right have we to give up our patient? So long as there is life it is our duty to apply every known means to alleviate suffering and prolong life.

Some of our medical brethren having developed the humbug element, with great swelling words and a jargon of technical terms, magnify what in common terms would be a slight cold into "congestion of the lungs" or "bronchopneumonia"; a disordered stomach into "gastric affection"; a wen into a "cancer," and for the cure of which mountains of danger have been removed, and the physician is, in most instances, duly credited and fully paid for his treachery. I have come in contact in my own limited country practice with fellows who work these tricks so adroitly that they actually receive more credit and more patronage and fees than three or four true physicians combined. We need to uproot all these unnatural and unnecessary peculiarities, for they tend to create a wrong impression of the medical profession in the minds of the people. Any act by any physician, be it unethical, dis-

honorable, or otherwise, has in its doing a professional significance, and to some extent involves the entire profession.

We find men who seem to be bound down by a fixed orthodoxy or ism, instead of being simply a physician, free to think and to do whatever he may so long as it is for the benefit of his patient. Whenever a man holds strictly to a school or system of medicine, denying the usefulness of remedies taken from any but his own, just so sure is his usefulness abridged and his future career hampered.

We should be willing to adopt anything of any value in any school or system, and apply it to the great mass that forms the resource of our knowledge. We should feel absolutely unrestricted and free to think and to act in striving to bring the various branches of medicine as near perfection as possible and should be alert to learn medical truths and wisdom wherever they can be found. Liberality and broad-mindedness along these lines would soon wipe out the war between the so-called different schools.

I have sometimes wondered why there exists such a popular sentiment against the medical profession as we sometimes find. Education and skill in medicine are ignored or even despised by some people, and they prefer some "special, gifted doctor" without an education to the "book doctor." Others again imagine there is in the healing art a sort of mysterious power or skill not gained like other knowledge, but is innate to certain men. Then, again, when a person happens to get better of some ordinary affection when taking a quack medicine, it attracts general attention, and everyone applauds; whereas if a dozen important cases get well under skillful treatment by a physician it is considered a matter of course and scarcely excites comment. There are many people who are wise logicians in all else, and yet as soon as sickness attacks them or theirs, they forget their reasoning and with closed eyes become an easy prey to quackery, and exhibit the strongest faith in pretenders whose assumptions are woefully contrary to common sense.

The public sometimes jests about the differing opinions of physicians, particularly these public professional contradictions and divergencies of opinion which emanate from our courts. They have therefore come to believe that medicine is merely a jumble of guesswork and devoid of scientific facts.

We need more harmony among physicians. The purpose for which the American Medical Association was organized was "For cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor, and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of medical men; for ex-

citing and encouraging emulation and concert of action in the profession; and for facilitating and fostering friendly intercourse between those engaged in it."

It seems to me this wisely covers every condition arising under the general phase of professional relations between physicians, and their conduct toward one another and the public. It only remains for us to study and heed the same.

## SOME INTERESTING CASES OF HERNIA\*

By N. L. WERNER, M. D.

RED WING, MINN.

In the selection of my cases, I will cite a few of the interesting cases which have come under my charge during the last four years of my practice, including also a couple of cases which came under my observation and charge while I was house-surgeon to the Chicago Post Graduate Hospital. I have tried to select cases that are of the most common types of hernia with which we meet and, consequently, are the more interesting to us in the general practice of medicine and surgery, as they are the types of hernias which we come across in our practice most frequently.

The first case to which I will call your attention was that of an umbilical hernia.

### UMBILICAL HERNIA

*Case 1.*—Mrs. B., 48 years of age, of Irish birth, married, and mother to seven children, was admitted to the hospital with a very large umbilical hernia, about the size of a child's head or larger. The only symptom of which the patient complained was the annoyance the tumor gave her.

The patient was prepared for operation in the usual manner, after an eczematous condition of the skin, where the skin of the tumor and that of the abdomen had come in contact, was treated and cured, to lessen the danger of infection during operation. A transverse incision was made across the abdomen and an elliptical portion of the skin and superficial fascia, including the umbilicus, was removed. Next, the hernia sac was exposed, covered with the thin stretched fascia and its sac. The sac was opened, and in this we found omentum firmly adherent to the sac in many places, necessitating blunt dissection and in many places the excision and ligation of por-

tions of omentum, where separation was next to impossible to perform. After we were able to get the under surface of the omentum in the sac exposed, we found the sac contained the greater portion of the transverse colon, the caput coli, and many coils of the small intestine; and at one place we found the appendix thickened and elongated and adherent to the omentum for a distance of about three-fourths of an inch. We removed the appendix, replaced the coils of intestines and transverse colon, and ligated the bleeding points of the omentum where adhesions had been separated. The operation was completed, using four lines of sutures. The peritoneum, after the redundant part of the sac was removed, was closed with a running catgut suture. The fascia was closed by the imbrication method, utilizing an upper and lower flap. Mattress sutures were placed in the lower fascia and pulled up under the upper fascia, and tied over the same. Four mattress sutures of strong chromic catgut were used. They were inserted about one and one-third inches from the cut edge of the fascia, thus securing over one inch of overlapping. The upper layer of fascia, that is, the overlapping free edge, was now sutured to the lower fascia by a running, continuous chromic catgut suture, reinforced by interrupted sutures of the same material at distances of one inch apart. The external or skin layer was an interrupted silkworm-gut suture.

The patient was placed in bed in the half reclining posture. She was given, every three hours, seven minims of adrenalin chloride per hypodermic injections with atropine sulph., gr. 1-120, t.i.d., to prevent hypostatic congestion of the lungs, which is a frequent cause of death of large umbilical hernia operations. The case made an excellent recovery.

\*Read before the Goodhue County Medical Society, April 6, 1909.



## VENTRAL HERNIA

*Case 2.*—A case of ventral hernia in a man of about 60 years of age, a chronic asthmatic and having at times violent attacks of coughing due to an associated bronchitis. The hernia, which was about the size of an ordinary good-sized walnut, would become very painful at these attacks of coughing, due to the fact that nothing seemed to be able to retain it in position. The location of the hernia was about two inches above the umbilicus and in the median line of the body. An operation was performed under local anesthesia, having first given him a hyperdermic injection of morphine sulph., gr. one-third, with atropine sulph., gr. 1-100. The local anesthetic consisted of Schleich's solution for skin and superficial fascia. For the tissues next to the sac, a four per cent cocain muriate solution was used, and a transverse incision about three and one-half inches long was made. Upon opening the sac we found only omentum adherent to the sac in three places. The protruding mass of omentum was excised and the opening enlarged to each side. The sac was excised, the peritoneum closed, using a purse-string suture of catgut, and the fascia sutured as in the previous operation, using two mattress sutures only.

The patient's after-treatment consisted mostly in keeping him sufficiently under the influence of morphine and atropine to prevent the onset of his usual attacks of asthma and coughing. He made a good recovery.

In regard to epigastric hernia: I wish to state that it is a comparatively rare form of hernia, occurring in less than one per cent of all cases. It is more frequent in men than in women, and may be found in children. Berger found it only one hundred and thirty-seven times in a total of 16,800 cases of hernia.

## STRANGULATED FEMORAL HERNIA

*Case 3.*—The next case was one of strangulated femoral hernia. The patient, a woman of about 50 years of age, was admitted to the hospital at midnight in a very bad condition, suffering pain in the abdomen associated with a subnormal temperature, fecal vomiting, extreme tympanites, cold, clammy extremities, and a general cyanotic condition of the skin. She stated that her attending physician had treated her for stomach trouble without any result. Examination of the patient revealed a swelling of immense size, in the right groin, the skin over which was edematous and dark-red. The location of the tumor was directly over Poupart's ligament and extending almost from the anterior-

superior spinous process of the ilium to the spine of the pubes. A diagnosis of hernia with strangulation was made. The patient was immediately prepared for operation, which was performed under gas and ether anesthesia. The incision, which was an extensive one, was made directly over the swelling and parallel to and directly above Poupart's ligament.

Upon arriving at the sac we found it very dark-red in color. It was carefully opened, and at once a very dark-red-colored fluid escaped. The sac itself was found to contain a large portion of omentum of an extremely injected dark-red color and almost black. Underneath the omentum we found a small loop of the small intestine. This also was very much injected, swollen, and extremely dark in color. By cutting Gimbernat's ligament and stretching the opening of the femoral ring we were able to pull out the omentum to such an extent that we could excise and ligate the diseased omentum. This done, we next pulled out the loop of ileum until we arrived at healthy intestine and mesentery. It was deemed advisable, from the appearance of the gut, not to replace it in the peritoneal cavity, hence about eight inches of gut with its mesentery was excised and anastomosis by means of a Murphy button was made. The bowel was returned to the abdominal cavity and the sac excised at the femoral ring. A silkworm-gut mattress suture, taking up fascia lata and ligament, was inserted from above in such a way that it could be tied later. A small cigarette-drain was inserted into the abdominal cavity through the femoral opening and left for twenty-four hours. A purse-string suture of catgut had been placed around the small drain, was pulled taut, when the same was removed on the following day, and by tying the silkworm-gut suture the opening in the femoral ring was closed. The patient had normal temperature on the third day after the operation and made a good recovery.

## STRANGULATED INGUINAL HERNIA

*Case 4.*—This is a case of strangulated inguinal hernia. The patient was a farmer. While pitching hay he developed a sudden acute pain in the abdomen and especially marked pains in the right iliac and inguinal regions. A few hours after he began vomiting, which he says became persistent. He then called his physician, which was about twenty hours after the onset of symptoms. The doctor undertook to reduce the hernia. The pain and vomiting, while not so persistent, did not cease, however, and accordingly he was sent to

the hospital. We found the following condition: persistent fecal vomiting; pulse, running 108 per minute; temperature under the tongue  $96.5^{\circ}$ ; a distended and tympanitic abdomen; no abdominal tenderness, except over the internal ring. Operation was advised, but no perceptible external manifestations of a hernia were to be found, except that the finger pushed up in the inguinal canal would not enter the abdominal cavity.

The patient was prepared for a laparotomy and was given gas and ether as an anesthetic. An incision was made as ordinarily for an inguinal hernia, except that we carried it a little higher and above the internal ring, and went through all tissues into the peritoneal cavity. We found the bowel adherent to the sac at one place at a distance of about one-half inch from the opening of internal ring and down the canal. The opening in the internal ring was very small, and the bowel at this point was found constricted.

The reduction by taxis in this case was incomplete, nor could it have been successfully performed on account of the adhesions of the bowel to the sac. Upon opening up the canal and sac we separated the adhesions and found an extremely dark-red bowel, almost black, at the point of constriction. The injected, dark, and edematous portion of bowel involved was in all about seven inches. We found no waves of peristalsis passing through this diseased portion of gut, not even after having hot saline sponges to envelop that portion of gut for a period of twenty minutes. Resection of seven inches of bowel was decided upon. The bowel was approximated by using the Connell suture for end-to-end anastomosis. The small sac was disposed of, and the peritoneum was closed as in an ordinary laparotomy. The layers of muscles below the internal ring were closed according to a Bassini operation, except that the external oblique muscle was closed over according to the Andrews modified Bassini operation.

The after-treatment consisted in the use of warm saline enemata and hypodermic injections of strychnine sulph., gr. 1-30, every three hours, and of atropine sulph., gr. 1-150, every six hours to incite and keep up peristalsis. The patient made an uneventful recovery.

#### DIRECT INGUINAL HERNIA

*Case 5.*—The next case was a direct inguinal hernia. A laborer of about 45 years of age presented himself with a right direct inguinal hernia, with an opening between the abdominal muscles large enough to admit three fingers with ease. The operation was performed at the Red

Wing City Hospital under ether anesthesia. The usual herniotomy incision was made, and when down upon the hernial sac the following anatomical relations were noted: The cord and sac were not enveloped in the same fascia, as is usual in the indirect type. The shape of the sac was characteristic of a ventral hernia, inasmuch as the base was the widest portion of the same. The cord was found to the outer and anterior side of the sac. Another important landmark, which was not destroyed, was the deep epigastric artery, which was found directly above the sac. Thus the sac emerged from the abdominal wall below this artery, while in the indirect type the sac emerges from the abdomen above the deep epigastric artery. I opened the sac or conical pouch of peritoneum and found no omentum or intestine adherent. I now excised the redundant portions of the sac and closed it with a running suture of the peritoneum, as in an ordinary laparotomy. I next brought down the conjoint tendon and the internal oblique muscle, sutured the rent, and with the same stitch brought them underneath Poupart's ligament with twenty-day chromic catgut, using interrupted sutures as in a Bassini. The external oblique muscle I closed with a running chromic twenty-day catgut suture. For skin sutures, I used silkworm-gut. The patient made a good recovery and up to the present time has had no recurrence.

All cases described have been of the external variety. I have made no mention of any of the various types of internal hernia, which are sometimes met with, as when a hernia passes through the diaphragm or into the retroperitoneal tissues. The contents of a hernia sac may include almost any one of the abdominal organs or be limited to a portion of omentum or small intestines. The mechanism of all hernias may be referred to one of three causes, either increase of the intra-abdominal pressure in combination with a weak place in the wall, or abnormal length of the mesentery with the above, or masses of fatty tissues localized in the subperitoneal layer, which mechanically or by atrophy increases the spaces between the fibrous elements, thus forming a pocket into which abdominal contents might be pushed. Practically, the only cause requiring consideration is the first. Hernia through the sciatic foramen, the fibres of the levator ani, the obturator foramen, and Douglas' pouch into the vagina have been described, but are very uncommon. The contents of the hernial sac, being exposed to circulatory disorders on account of the stretching and twisting of its vessels, which may follow,

are liable to various chronic inflammations, which form adhesions between them. Acute inflammation may occur after injury. Compression of the veins leads to stasis, thrombosis, and gangrene. When the arteries are compressed it leads to rapid edema, inflammation, hemorrhage, and gangrene. Strangulation may be due to the small size of the internal ring, to intestinal onflow and external edema with increased size of the sac's

contents, or to other abdominal contents forcing their way into the sac. If strangulation can be speedily relieved and moist heat applied to the gut by means of hot saline sponges, the waves of peristalsis will sometimes pass through. In these cases it is not always necessary to resect the intestines, as the bowel may return to normal conditions.

## MEDICINE IN EDINBURGH

By GEORGE DOUGLAS HEAD, M. D.

MINNEAPOLIS

In this old Scottish capitol, full of monuments of historic interest, there is one which never fails to attract the attention of a visiting physician. It stands in the Princess Street Gardens and can be plainly seen from Princess street itself. Sitting with a book upon his knee in an attitude of interrupted thought, the figure with broad forehead and sympathetic features, suggests a man of high intelligence. This bronze statue is none other than that of Sir James Y. Simpson, the discoverer of the anesthetic effect of chloroform and at one time the distinguished professor of obstetrics at the University of Edinburgh. Its erection to the memory of this noble physician expresses the gratitude of the Scotch people toward one of the benefactors of mankind and especially to the profession of medicine of which he is an illustrious example. One feels after seeing it that he is in the midst of a people sympathetic to the physical ills of their race and to those who minister thereto. A little incident which occurred as I was standing looking with admiration upon the statue illustrates this deep popular interest. A man, evidently an ordinary laborer, stepped up to me and said: "Sir, are you a stranger in Edinburgh?" I answered, "Yes, I am." "Well, do you know who that man is?" I replied "Yes, I ought to, for I am a physician." He smiled and answered "Ah, you ken. He's the man of chloroform."

Tenfold more forcibly does this feeling of popular interest come over one when he visits that magnificent institution, the gift of private philanthropy, the Edinburgh Royal Infirmary. A hospital of nearly one thousand beds, built, on the pavilion plan, of solid gray stone and Romanesque architecture, it makes a most imposing spectacle, and overwhelms the visitor with the maize of buildings through which he is ushered. Here the students of medicine receive the last

two years of their clinical instruction in ward-work, bedside clinics, didactic lectures, and demonstrations. Into this delightful atmosphere of student and teacher it has been a pleasure to enter and catch a glimpse of the teaching methods pursued and the thorough, painstaking scientific work in the wards. One needs only to take his seat in the Wednesday amphitheatre clinic of that great medical teacher and investigator, Dr. Byrom Bramwell, and cast his eye over the 150 students assembled to convince himself of the worldwide reputation of this school. On the benches before you are dark-haired Canadians from our own America, black-skinned men from India, yellow men from China and Japan, and even the typical southern negro from the West Indies, as well as Australians, Scandinavians, a few Americans, and students from all parts of England, Ireland, and Scotland. Certainly, nowhere else in the world does one see a more international gathering of medical students.

Edinburgh is a city scarcely larger than our own Minneapolis, and yet, with London, the largest city in the world, on one side and Glasgow on the other, she has today a medical school which outstrips in medical influence either of her larger sister cities.

One of the chief factors which have played a role in building up the Edinburgh school is the concentration of the clinical material in one large central modern hospital. The Royal Infirmary at Edinburgh, the Allgemeine Krankenhaus, in Vienna, also illustrate most forcibly the importance of concentration of clinical material in the development of a great medical school whose influence shall become worldwide in its scope. If we but realize it, we have in our own University Hospital, the beginnings of such an institution. However, the loyal support of physicians and laymen and the self-sacrifice of teach-



ers are necessary to create an institution of such a high order.

In respect to the clinical advantages for post-graduate work here, much might be said. No such opportunities are offered as one meets with in Vienna where, during the whole year, post-graduate courses are in operation. One is permitted at any time to take out a hospital ticket and devote as much time as he desires to clinical work in the wards. The instruction is, however, entirely under-graduate in character, and except at irregular intervals no post-graduate courses are offered. The month of September, however, is given over entirely to post-graduate work, and the announcement contains a fine list of courses in all subjects. Every teacher takes part in the work, and one has the advantage, which he does not get at Vienna, of ward clinics under the heads of chairs. The names of such well-known men as Drs. G. A. Gibson and Byrom Bramwell, in medicine; Dr. Lovell Gullaud, in blood diseases, and Dr. R. W. Philip, in tuberculosis, make the medical side of this course most attractive.

A pleasing feature during the past week has been the visit of our own Dr. W. S. Thayer, of Baltimore. To an amphitheatre full of enthusiastic and medical men he demonstrated a case of exophthalmic goitre. In his closing remarks Dr. Thayer stated that he was favorable to excision of part of the thyroid gland in those cases which were not benefited by systematic medical treatment. He laid much stress upon the importance of a *suitable personality* in the physician who attempts to carry out a successful rest-cure for these cases.

Prof. Beraneck, of Switzerland, who is known in our country through the tuberculin which bears his name, and who, by the way, is not a physician but a scientist, was present at Dr. R. W. Philip's tuberculosis clinic yesterday, and gave a most instructive lecture upon tuberculin, comparing the various preparations with his own and claiming as an advantage for the Beraneck tuberculin that it is less toxic and produces both antitoxic and antibacterial immunity against the tubercle bacillus.

Prof. Beraneck is a very modest man, and he made a most favorable impression upon all who heard him. His tuberculin is being used by Dr. Philip at the Victoria Tuberculosis Hospital upon a considerable number of the cases.

The cordial reception which is given American physicians in Edinburgh indicates a strong feeling of friendship for the profession of our country. This is seen especially among those men

who have visited the United States, a not inconsiderable number, and who have been the recipients of the hospitality of our profession. More effective efforts should be made in the future to induce physicians visiting in the United States to travel westward and become acquainted with the medical schools and the medical men of the West.

Altogether, our five weeks' stay in Edinburgh has been most delightful and profitable and we leave with regret this old university city, with its beautiful parks and gardens, its broad streets, and its many monuments and historic ruins.

## From FLIES and FILTH to FOOD and FEVER

### The State Board of Health of Florida

Asks YOU to carefully and attentively read this card. THEN, put the question directly to yourself, whether flies should not be destroyed, or, at least, an effort be made to keep from polluting food prepared for you to eat.

**Flies are disease carriers**  
**Live and breed in all kinds of filth**  
**Infect food and drink by germ-laden feet**  
**Each female fly can lay 150 eggs**  
**Should be kept out of dwellings**

Flies breed in horse manure, cow dung, decaying vegetables, garbage of all description, dead animals, and human excrement.

Flies are Nature's scavengers, it is true, filling the same function as some bacteria do, but become an undesirable nuisance and DANGER when entering human dwellings and contaminating food.

The presence of flies is a direct evidence of careless housekeeping and the existence of filth in some form about the premises.

Remember that when and where absolute cleanliness prevails there will be no flies.

Look daily after the garbage can. See that they are carefully sprinkled with lime or kerosene oil and effectively covered.

Do the same thing to manure heaps, and remove all manure from stables every three or four days, and when removed, cover with lime and sand.

Look carefully after the Cesspools. They require constant attention. This is particularly true in north boarding houses, station houses, Railroad Stations, and in fact, wherever people congregate in large numbers.

Flies are fond of leaping on tuberculous sputum, and hover around cesspools. The specks of dust contain live tubercle bacilli, after they have eaten tuberculous sputum, showing that the bacilli will pass through the digestive tract of the fly in an active infective state.

Flies carry on their mouthparts (proboscis) and on their legs, purifying and disease germs, on which they have recently fed, and they crawl over food, infecting it, unless shut out by screens.

Keep flies from the SINK, especially those of which commensurate or contagious diseases. If the room is not screened the patient should be treated under a net, both for safety to others as well as for individual treatment.

SCREEN ALL FOOD. Apply this rule not only to food prepared at home, but to food stuffs offered for sale, and especially to such and all other things which do not require to be cooked. For—

Flies crawl over fruit when exposed for sale uncovered by screens, and in the process of people do not wash fruit before eating it. This is a fruitful source of human infection, particularly in the case of typhoid fever, in being rarely handled.

Don't forget that flies will carry the bacilli of typhoid fever from the stool of the patient if left exposed and not disinfected; if given an opportunity, to the food in the kitchen and dining room. This is no conjecture, for the Spanish-American War proved this fact.

The great secret of how to get rid of flies is CLEANLINESS. FIRST, and by screening all openings of the house, especially the kitchen and dining room.

Look at the marginal illustrations. They are disgusting, it is true. So are flies. The disgust that they arouse in your eye or in smelling, however, is the probable and possible means which you will rely on by giving the head to the swarms suggested by the marginal illustrations.

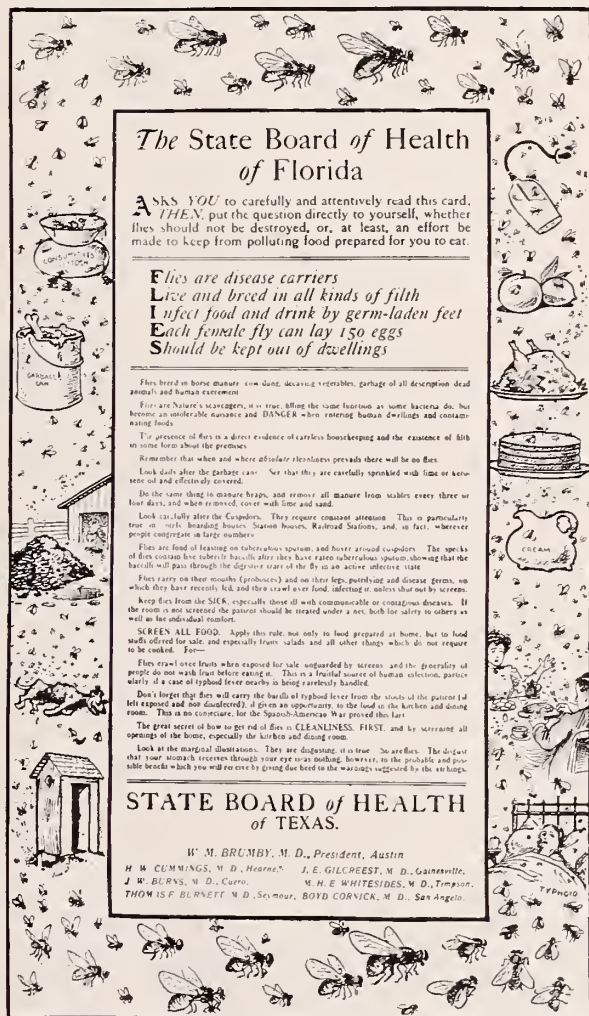
### STATE BOARD of HEALTH of TEXAS.

W. M. BRUMBY, M. D., President, Austin

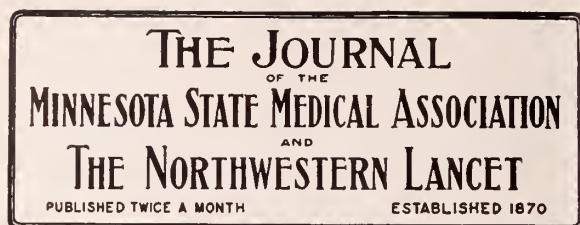
M. W. CUMMINGS, M. D., Member, J. E. GILCREST, M. D., Gainesville.

J. W. BURNS, M. D., Corro, M. H. E. WHITESIDES, M. D., Temple.

THOMAS F. BURNETT, M. D., Seymour, BOYD CORNICK, M. D., San Antonio.



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JULY 15, 1909

## THE IMPORTANCE OF CORRECT FEED- ING

During the summer months, and particularly during the excessive heat, various epidemics which are frequent among children and adults are constantly presented to the physician. It is sometimes amusing, as well as saddening, to think of the comparatively slight attention that is paid to diet, not only in hot weather, but in all seasons. Of course, there are faddists who have their one-idea proposition, and who believe implicitly in the weighing and balancing of certain crude food products. The man who feeds his patient by weight, and does not keep in mind the possibility of the individual and his peculiarities, wonders why his theories are not substantiated. On the other hand, there is the physician who ridicules the idea of paying attention at all to foods, but permits the individual, whether he be growing or full grown, to eat whatever, whenever, and wherever he pleases. It is much wiser to take the middle ground, and to study things more carefully, and particularly to keep in mind that in many growing children there is a tendency to food-intoxication. The child that cries and

demands by teasing, with whining, indigestibles is a great source of profit to the doctor, and the mother wonders why the child is sick and why certain things disagree with him. A little patience, a little practice, and a regular system would eliminate the majority of food-intoxication diseases.

Dr. John Ruhrah, of Baltimore, read a very sensible paper before the Section of Diseases of Children at the last meeting of the A. M. A. at Atlantic City, in which he says a large proportion of conditions which the physician is called on to treat are due directly, or indirectly, to errors in diet, and there is no more frequent cause of disturbance, perhaps, than over-feeding. The child is looked upon as a growing animal, full of vigor and activity, and that he demands a certain quantity of food. He demands it because he has become habituated to its use, and every physician, if he stops to think, can recall innumerable cases where over-feeding is not accompanied by over-fat production. It not often produces the opposite effect. The growing child becomes thin, pot-bellied, and anemic during the time when he is ingesting large quantities of food.

The child who has a healthful start can readily be kept in good health by a little care, and a fixed system which provides for a liberal, but rational, form of diet. When, for some reason or other, diseases or intestinal disturbances, due to unpreventable conditions, take place, the parent and the physician are sometimes unable to adjust themselves to the needed change in diet; then the trouble begins, and all sorts of conditions arise which may be due to errors or improper administration of food. In many of these cases it is necessary to study the digestive habits of the child, and to eliminate by very careful physical examination any diseased organs, and, further, to undertake a study of foods and their effect upon children, a sort of experimental dietary program.

The ingestion of large quantities of food is not infrequently a common source of error, and causes all sorts of digestive disorders which can be very readily and easily corrected. Then, too, too many children are given large quantities of starch and sugar. This is largely a habit which can be readily broken up if one chooses to take pains to this end. The only way to remedy this deficiency is to secure the co-operation of the family, and point out to them the urgent necessity of maintaining a good digestion during the period of active growth in the child.



A study of the article above referred to, which appears in the last number of the A. M. A. Jour., would do all of us good, and would change the character of many of the diseased states and arrested development, and would simplify the diagnosis. That is, a more careful study of the patient and a simpler dietary, suitable for the individual case, would clear up many obscure diagnoses, and bring relief and recovery to many children.

### THE HALF-TRAINED NURSE

The Journal of the American Medical Association, July 10th, calls attention in an editorial to the address of a physician to the graduates of a hospital for training-school for nurses, in which he suggests that there should be a nurse trained for work among the middle classes; that many of the nurses who are now undergoing training in the hospitals should be sent out for just such cases at a moderate fee, say of \$12 or \$15 a week; and he made a second suggestion in which nurses should go out by the hour.

Of course, both of these suggestions have been before the profession for consideration for more than two years, and they have been advocated by many physicians, and in some states the practice has been carried out. An imperative demand for nurses who are reasonably competent to do ordinary work calls for the adoption of these much-talked-of suggestions.

The third suggestion, which has been talked over and commented upon at length, is that the hospital should graduate three grades of nurses, to be distinguished by different badges, diplomas, or certificates, and that they should charge according to their supposed efficiency. The objection to this plan is that the cheaper grade of nurse will work her way into the better grades of work, and will eventually command as much as her more experienced and more thoroughly trained associate. But this can hardly justify the dropping of a gradation of this kind, for this same plan has been tried and found sufficient in all professions and in all lines of business, where the most competent and those who merit larger fees and are capable of doing expert work, will eventually come to the front, irrespective of their training.

The writer does not know whether this matter was threshed out at the recent annual meeting of the Nurses' Association, held in the Twin Cities in June, but it is to be hoped that it will be taken into consideration, and that some plan

may be adopted which shall offer a solution of these very vexing problems.

A great many nurses are quite willing to undertake institutional work and to receive less compensation than they can earn in private practice. The majority of them, however, recognize the fact that they are more steadily employed and that each month they have a certain definite sum to rely upon, while the average nurse, in general practice, knows by experience that there are many weeks in the year in which her expenses accumulate and her compensation diminishes. The best illustration of the steadily employed nurse is found among the so-called visiting nurses who are employed by charity organizations. They are paid by the month, are allowed car fare, and usually have their evenings and nights to themselves. Among this class there are many who are thoroughly competent, and who are very conscientious in carrying on their duties.

This matter should be discussed at our coming State Medical Association meeting, and physicians in general should take more interest in the welfare and education of nurses.

### EXPERT TESTIMONY BILL

At a meeting of the Maryland Psychiatric Society, held June 30th, a bill for expert testimony, prepared by the Baltimore Bar Association, was considered and will be presented to the next legislature. The bill provides that the judge shall appoint experts and fix their fees, and that they shall possess official standing. The expert, after investigating the case, is to submit to the attorney for each side a written report, and shall do this before testifying at the trial of the case. Very naturally, there was some opposition to a bill of this kind, prepared and presented by lawyers, and the result of the discussion was that three physicians were appointed to confer with a like committee from the bar association on the parts of the bill concerning which physicians and lawyers were at variance.

Many states have attempted to change the character of expert testimony by making it more open and aboveboard, and less partisan, but, so far as the writer knows, no one has yet succeeded in eliminating the objectionable features; neither have the two professions agreed as to what is right and proper in this direction.

On account of the great divergence of opinion of the experts, juries and judges pay very little attention to their testimony, and there is less of expert testimony at trials for personal injuries. The great corporations have realized that it is, in



the end, cheaper to settle with their litigants than to carry on a prolonged trial and to maintain experts at enormous fees from day to day, and then to find the jury and the judge disregarding their testimony because it is so flatly contradictory.

If the Maryland bill shall become a law, there is no question but what a similar law will be adopted by many other states of the Union, and it will elevate the professional expert witness, and eliminate the so-called expert who is often unqualified, both by lack of knowledge and training and by lack of unbiased judgment.

It is respectfully suggested that this matter be taken up and discussed by our State Association, and that the Maryland bill be the subject of study and comment.

### THE DOCTOR AND THE AUTOMOBILE

The present season has shown the great interest physicians are taking in automobiles, not simply for pleasure, but mainly as a business necessity. Probably very few physicians have fully comprehended the revolution the motor-car has produced in the mode of transportation. A simple illustration may give some of our readers a new idea on this subject.

As is well known, the areas of circles vary as the squares of their diameters. Suppose a physician in the country covers a territory five miles in each direction from his office, using two or three horses. With an automobile he can more easily ride ten miles in each direction, responding to calls more promptly than is possible with horses. The territory thus covered is *four* times as great as he was visiting with horses.

If this means anything, it means that a physician without an automobile is in danger of losing a good deal of his practice if as good a physician, or particularly a better one, lives within fifteen or twenty miles of him and has an automobile and a telephone.

This simple illustration is so far within the bounds of reality that it can hardly fail to impress a thoughtful man.

Besides this, it must be remembered that if one of three or four physicians in the same village has a machine and the others do not, the one with the machine will soon begin to get the best-paying families in that territory, for the well-to-do man is generally very independent, and wants the physician who can come quickest, especially in emergency cases, and an emergency case often means a change of physicians.

The automobile is indeed a necessity for prac-

tically every physician, and the best, not necessarily the highest priced, is none too good for a successful physician.

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## NEWS ITEMS

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A new hospital was opened at Henning last month.

Dr. Eugene McKeown has located at Edgerton, N. D.

Dr. E. H. W. Rogers has moved from Austin to Newport.

Dr. G. F. Schmidt has moved from Minneapolis to Grand Rapids.

Dr. S. A. Keller has moved from Garretson, S. D., to Sioux Falls, S. D.

Thirteen candidates took the June examination in North Dakota for license to practice.

The Bismarck Hospital and Deaconess Home was dedicated on July 4th at Bismarck, N. D.

Dr. Anton J. Moe, of Heron Lake, has gone to Vienna, and will be absent a couple of months.

Dr. Erle E. Benedict, of Racine, has moved to Minneapolis, and has offices at 3646 Central Ave.

Dr. John Jackola, of Duluth, who is in Berlin, has been appointed assistant in the clinic of Prof. Bier.

Dr. C. B. Tiesburg, of Pine City, was married last month to Miss Mary V. O'Brien, of Minneapolis.

Dr. J. H. Campbell, a recent graduate of the State University of Iowa, has located at McHenry, N. D.

The architects are drawing plans for a large addition to the building of St. Barnabas Hospital, of Minneapolis.

Dr. W. J. Graham, of Walhalla, N. D., died last month at the age of 66. He began practice in North Dakota in 1881.

It is said that the old St. James Orphanage building in the West End of Duluth is to be remodeled for hospital purposes.

Dr. James T. Pilcher, on the staff of St. Mary's Hospital, Rochester, was married last month to Miss Curtis, of New York City.

Dr. George M. Nelson, a State University graduate, has been appointed naval surgeon at the Minneapolis recruiting office.

The state of Washington has a law, now in effect, requiring people to pass medical examination before marriage in that state.

Dr. J. G. Arnaberg, of Leeds, N. D., who has been abroad for two years engaged in special work, has located in Grand Forks, N. D.

Dr. M. S. Nelson, of Mora, was married last month to Miss Ethel Stansbury, of Minneapolis. Dr. Nelson graduated from the State University last year.

Dr. J. W. Trimbo, of Drake, N. D., was married last month to Miss Albena N. Monroe, of Henderson, Minn. Dr. Trimbo has located in Harvey, N. D.

Dr. E. C. Stone, of Balfour, N. D., will spend several months in post-graduate work. Dr. Herbert Leibold, of New Ulm, will have charge of Dr. Stone's practice.

Dr. F. A. Nordbye, McGill '08, who has been an interne in Bethesda Hospital, St. Paul, for the past year, has located at Rolette, N. D., having purchased the practice of Dr. W. R. Claybaugh at that place.

The Spokane (Washington) County Medical Society has pledged its members to make, during the remainder of 1909, no charge for the medical examination of prospective brides and bridegrooms as required by the new state law.

The Sisters' Hospital, of Hot Springs, S. D., is just completing an addition to their building and are refurnishing the entire hospital. The addition gives the hospital a capacity of 150 patients. This is a beautiful hospital, admirably located, well conducted, and thoroughly equipped.

Drs. J. Warren Little, C. G. Weston, and Archa Wilcox, of Minneapolis, have plans for a new hospital to be built at once at the corner of Harriett and Franklin avenues, Minneapolis. Dr. Frank C. Todd will have a special operating-room for eye, ear, nose, and throat work. The building will cost \$50,000.

Dr. James Hynes has succeeded Dr. T. T. Warham as county physician of Hennepin County (Minneapolis.) Dr. Hynes was appointed by the retiring board of county commissioners, and Dr. Warham held the office as the appointee of the new board. The supreme court held in favor of Dr. Hynes.

The Ramsey and Hennepin County Societies have suspended their weekly study courses and their monthly meetings for the summer months. These two strong societies report that the past year has been the best in the history of each society. The study courses have been especially helpful and have been well attended.

The Fort Pierre (S. D.) Hospital has been leased to Drs. Lavery & Walsh for five years, from July 1, 1909. The doctors have already taken charge at the hospital, Mrs. James N. Douglass retiring. Dr. Wm. Schroeder, who has been working with Drs. Lavery & Walsh during the past eight months, and his wife, who was formerly superintendent of nurses, will conduct the Hospital until permanent arrangements are made.

The Monthly Bulletin of the Ramsey County Society states that many complaints have reached the secretary that members of the Society were not enrolled in the A. M. A. Association, and that they were not receiving *THE JOURNAL-LANCET*. The same complaints are made to practically all secretaries. The explanation is simple: Dues have not been paid promptly. Unless one's county society dues are paid before April 1st, his name is dropped from the rolls of his county society, the State Association, the American Medical Association, and from the mailing list of *THE JOURNAL-LANCET*.

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[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### SERVICES OFFERED

I will consider a position as locum tenens for the months of August and September. Have had 15 years' experience as general practitioner. For terms, references, etc., address A. J. Lewis, M. D., Mora, Minn.

#### PRACTICE FOR SALE

An ideal country location in Minnesota; business ranges from \$250 to \$500 a month; easily held by right man; no opposition; good prairie country; fine people; good pay. To a responsible man will sell for \$3,000 including real estate—\$1,000 cash and balance on time. Do not write unless able to buy. Address C. R. H., care of this office.

#### FOR SALE OR EXCHANGE

A six-inch induction coil suitable for x-ray or wireless telegraphy. Will sell for cash or will exchange for a first-class Victor phonograph. Address W. E. Stevens, 410 E. 14th St. (Flat 9), Minneapolis.

## OFFICE FOR RENT

A well-equipped office in the New Jersey Building, Duluth, is offered for a part of each day. Address Rooms 420 and 421 New Jersey Building, Duluth, Minn.

## PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

## PHYSICIAN WANTED

Exceptional opening for a good physician at Hibbing, Minnesota. Address D. E. Haskins, Hibbing, Minnesota.

## FOR SALE

I wish to retire and will sell my practice for the price of my real estate (\$3,000), including my office outfit and some other personal effects. Good territory, schools, and churches. Two main lines of railroad nearby. Town nearby 1,000; German, Scandinavian, and American; three hours from Twin Cities. Good for \$2,500 cash, yearly, and can be greatly increased by an active man. Address J. Q., care of this office.

## FOR SALE VERY CHEAP

An up-to-date 12-inch x-ray coil and stand, including valve and interrupter. Guaranteed. Cash proposition. Address A. H. S., New Jersey Bldg., Duluth.

## HOSPITAL FOR RENT

A completely equipped and furnished hospital in town of 3,500. Good paying business for a man and wife; patronized by all local physicians. Present matron wishes to retire. Address C. M., care of this office.

## PART OF OFFICE FOR RENT

A physician is wanted to share the office with a dentist in the Donaldson Bldg., Minneapolis. Phones: T. S., 3063, or N. W., Nic. 1160.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists. Phones: N. W., East 9381; T.-S., 16449. Minneapolis, Minn.

*Physicians' Attention*.—Drug-stores on easy payments, etc. Drug-store positions in United States or Canada. F. V. Kniest, Omaha, Nebr.

## DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF APRIL, 1909

### REPORTED FROM STATE INSTITUTIONS FOR MONTH OF APRIL, 1909

STATE INSTITUTIONS.	Total Deaths		Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Pergus Falls, Hospital for Insane.....	9	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	9	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	7	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Anoka, Asylum.....	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Paribault, School for Deaf.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paribault, School for Blind.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paribault, School for Peeble Minded.....	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals .....	35	8	..	1	..	..	..	..	..	..	..	..	3	..	..	..



REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF APRIL, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	8	1	1			1								1	
Anoka	3,769	4,053	4														
Austin	5,474	6,489	8		1												
Barnesville	1,326	1,566	1														
Bemidji	2,183	3,800	6	2	1												
Blue Earth	2,900	2,364	5	1											1		
Brainerd	7,524	8,1	7		1												
Chaska	2,165	2,085	*														
Chatfield	1,426	1,300	1														
Cloquet	3,074	6,117	2														
Crookston	5,359	6,794	7		1				1								
Detroit	2,060	2,149	0														
Duluth	52,968	64,942	70	6	1	11	1	4	3					2	4	3	
E. Grand Forks	2,077	2,48	7	3													
Ely	3,712	4,045	2												1		
Eveleth	2,752	5,332	4		1												
Faribault	7,868	8,279	8	1													
Fairmont	3,440	2,955	0														
Fergus Falls	6,072	6,692	9		1				1							1	
Granite Falls	1,214	1,340	*														
Hastings	3,811	3,810	3		1												
Hutchinson	2,495	2,489	4														
Jordan	1,270	1,311	3				1									1	
Lake City	2,744	2,877	4														
Litchfield	2,280	2,415	1													1	
Little Falls	5,774	5,856	2														
Luverne	2,223	2,272	5		1												
Le Sueur	1,937	1,842	3														
Madison	1,336	1,604	4	1						1							
Mankato	10,559	10,996	15	1	1										1	1	3
Marshall	2,088	2,243	0														
Melrose	1,768	2,151	*														
Minneapolis	202,718	261,974	278	21	3	35		6	7			3	2	5	7	23	
Montgomery	979	1,281	2										1				
Montevideo	2,146	2,595	3													1	
Moorhead	3,730	4,794	6	2		2		1									
Morris	1,934	2,003	2	1											1		
New Prague	1,228	1,419	2		1												
New Ulm	5,403	5,720	6		1												
Northfield	3,210	3,438	5		2												
Ortonville	1,247	1,612	5														
Owatonna	5,561	5,651	3	1													
Pipestone	2,536	2,885	*														
Red Lake Falls	1,885	1,797	1						1								
Red Wing	7,525	8,149	9	1	1											1	
Redwood Falls	1,661	1,806	1														
Renville	1,075	1,229	2	1			1										
Rochester	6,843	7,233	14	1		2										4	
Rushford	1,100	1,133	0														
St. Charles	1,304	1,238	0														
St. Cloud	8,663	9,422	7	1	1											1	
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	192	17	2	24	1	4	10			5	2	1	5	11	1
St. Peter	4,302	4,514	2														
Sauk Centre	2,220	2,463	1		1												
Shakopee	2,046	2,069	1														
Sleepy Eye	2,046	2,312	0														
So. St. Paul	2,322	3,458	0		1												
Stillwater	12,318	12,435	6		1	1											
Thief River Falls	1,819	3,502	*														
Tower	1,366	1,340	2														
Tracy	1,911	2,015	1		1												
Virginia	2,962	6,056	13		2			3					1		1		
Wabasha	2,528	2,619	*														
Warren	1,276	1,640	1												1		
Waseca	3,103	2,838	1														
Waterville	1,260	1,383	0														
West St. Paul	1,830	2,100	4														
Willmar	3,409	4,040	6		1											1	
Windom	1,944	1,884	3	1	1												
Winona	19,714	20,334	21	1	2							1				7	
Worthington	2,386	2,276	2														

\*No report received. Health officer not doing his duty.

## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF APRIL, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....	..	1,636	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buffalo.....	1,040	1,124	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....	..	4,231	10	..	1	1	..	..	..	..	..	..	..	..	2	..	1
Clason.....	962	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,718	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	556	1,032	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hallock.....	805	1,014	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	12	..	1	3	..	..	..	..	..	1	..	2	1	..	..
Jackson.....	1,756	1,776	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Kasson.....	1,112	1,049	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Plainview.....	1,038	1,140	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Princeton.....	1,319	1,704	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Rapids.....	1,391	1,552	2	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Scanlon.....	..	1,122	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	6	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Wadena.....	1,520	1,868	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnebago City.....	1,816	1,553	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....	..	..	35	8	1	..	..	..	..	..	..	..	..	3	..	..	..
Other parts of State.....	1,012,328	1,085,886	760	71	10	116	8	17	10	1	1	6	3	6	25	40	4
Total for State.....	1,751,395	1,979,658	1697	158	21	220	13	36	35	3	1	17	9	21	52	103	11

164 Still births and premature births, not included in above totals.

\*No report received. Health officer not doing his duty.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## ABDOMINAL EMERGENCIES\*

By H. B. SWEETSER, M. D.

MINNEAPOLIS

Mr. President and Gentlemen:

When your Secretary, Dr. Barton, kindly invited me to read a paper before your Society on some surgical subject, I had just seen a young married woman die from perforation of a gastric ulcer, unrecognized until the patient was moribund and had been treated by repeated doses of morphine. This and similar disasters that I have seen and known of, gave me the idea that it might possibly be of more interest to you to discuss as general a subject as abdominal emergencies in a general way rather than to write on some specific subject in a technical way.

The experience of all of us, even if only a short time in practice, has probably been about the same in this class of cases, and I do not question that we all look back with the keenest regret on our mistakes, because of the disastrous results which have followed. Bitter experience is the school in which we must learn, and it is well if we can diminish the total of our own fatalities by studying the pitfalls which have beset the way of our fellows. Dr. Fenger, eminent as a pathologist and a surgeon, once expressed regret and sorrow at the number of patients whom he had killed. Dr. Mac Laren, of St. Paul, in a late paper published in *Surgery, Gynecology and Obstetrics*, warned against estimating the chances of recovery from an opera-

tion by the statistics of the best operators, saying that these men had attained their low mortality only after bitter trials and loss in their early experience.

By abdominal emergencies I mean those conditions that occur within the abdomen, and which tend to end in death if not relieved. Broadly speaking, they may be of traumatic, inflammatory, or mechanical origin.

Their consideration is of pre-eminent importance, first, because they are of every-day occurrence; second, because they come to all of us alike, young and old, internist and surgeon; third, because they appear abruptly, and the plan of treatment has to be decided upon at once with no time to study what is best to be done; and, fourth, because, on this impromptu decision, the result most often depends.

They present themselves to us under two sets of circumstances, (1) either prior to operation, when the matter of correct diagnosis is the point to be decided, or (2) during the course of some operation, when the decision has to do with how the emergency is to be dealt with, *i. e.*, the treatment to be adopted. Of these the first is by far the most important, for if the correct diagnosis is made at the proper time, in the great majority of cases the plan of treatment to be adopted becomes evident, and the results of such treatment correspondingly good. Yet from the very nature of the cases, a diagnosis, early enough to be help-

\*Read before the Clay-Becker County Medical Society, April 26, 1909.



ful, is often extremely difficult and, frequently, impossible to be made, so that it is not at all strange to find equally good men differing widely as to the conditions present in an individual case and as to the plan of treatment to be followed. So recent has been our development in this direction that many of us can remember when a diagnosis of fatal abdominal conditions was made only on the advent of symptoms of grave peritonitis; and it is still only too common to meet cases like the one mentioned above, where fatal delay has waited on our efforts at a positive diagnosis.

In the vast majority of these emergency cases death results from peritonitis, spreading and diffuse and septic in character; and our aim in treatment largely resolves itself either in preventing its advent altogether or in inhibiting its spread when it has already arisen.

Preventing the advent of acute spreading peritonitis is best done by removing the threatening cause, and in the study of individual cases it is well to go over the common causes which may give rise to the symptom-complex present. And this leads us to a consideration of such common causes.

Possibly of first importance are acute cases of appendicitis, because of their frequency, their danger to life, and their anomalies in symptomatology.

After a generation of almost universal study and experience we have formulated fairly definite methods of procedure for the typical cases. It is now generally conceded that all early cases, *i. e.*, those in the pre-perforative stage—and this is, as a rule, within thirty-six to forty-eight hours of the commencement—should have immediate surgical interference, irrespective of the severity or mildness of the symptoms. After perforation the decision as to when to operate becomes much more difficult, and a number will die under any plan. As a rule, I think we are leaning more and more to the plan of operating at any time the diagnosis is made, doing as little as possible and often only draining the abscess; yet there are always cases where the best results seem to come from delay. Obese patients with very pronounced tympanites stand operation very badly, especially in the presence of pus, and my results under these conditions have been so bad that I now practically always delay operation until the distension has disappeared under abstention from stomach feeding and the persistent use of atropine and rectal

enemata. Under this plan I have succeeded in saving a number whom I am sure I should have lost if I had operated when first seen.

Diffuse peritonitis due to perforation of the appendix—and this applies also to perforation of any of the hollow abdominal viscera—has had evolved for it a plan of treatment which has entirely changed the prognosis of what was, until very recently, an almost absolutely fatal condition. For this we are indebted partly to the late Dr. Fowler, of Brooklyn, N. Y., himself a victim of appendicitis, and largely to Dr. J. B. Murphy, of Chicago.

It consists in opening the abdomen to relieve tension, removing the appendix, and closing the perforation with the least possible disturbance or bruising of tissues, tube-drainage, Fowler's position, and proctoclysis for three or four days at the rate of one to one and one-half pints of normal salt solution hourly. Murphy reports forty-seven such cases treated in this way with only two deaths.

Another emergency within the abdomen, which at present claims twice or three times as many victims as does appendicitis, arises as the result of perforation of typhoid ulcer. In the census of 1900 there were 35,379 deaths from typhoid fever, and of these it is estimated that about 12,000 (one in three) were from perforative peritonitis, whereas the deaths from appendicitis were only 5,111. Vaughn, of Ann Arbor, at the last meeting of the Hennepin County Medical Society in Minneapolis, estimated 50,000 deaths from typhoid as the present rate, which would give over 16,000 deaths from perforation. Yet only about 500 operative cases could be collected up to January 1, 1907. Of the operated cases about 25 per cent recovered, and, as the mortality of unoperated cases is practically 100 per cent, this would give a clear gain of from 3,000 to 4,000 lives saved yearly, if all could be operated on. The question may well be asked why so few cases come to operation. There are probably many reasons. Perforation occurs usually when the patient is sickest, with an obtunded sensorium, more or less tympanites, possibly some tenderness in the right iliac region, hemorrhages, and more or less collapse. If now the shock and collapse of perforation are added, the tangible change in the patient's condition may be very little. The physician in charge may suspect perforation, but he waits till the text-book symptoms of perforation occur. These, however, we now know to be the symp-

toms of septic peritonitis, but by the time they develop the prognosis is practically hopeless. Further, the extreme weakness present in most typical typhoid patients makes the physician hesitate to subject his patient to the added danger of an operation, unless he can be sure a perforation actually exists. Given a typhoid patient in the second or third week, or later, with sudden advent of abdominal pain, tenderness, rigidity and increased pulse-rate of high tension as against the slow, low tension-rate of normal typhoid, there should be no doubt as to the presence of perforation, nor hesitancy as to the necessity of operation. Indeed, if there is only a sudden attack of localized pain with absence of the other symptoms, I should now open the abdomen, and I feel sure that such a course, if consistently followed, would be justified by the results. Lately, someone reported two cases with local tenderness gradually creeping towards the left from the right iliac region, and upon this he made positive diagnosis and saved both cases. Woolsey, in an analysis of seventeen cases occurring in the New York Presbyterian Hospital, found sudden and severe pains in fifteen as the initial symptom. If we fail to appreciate the significance of this sudden pain we often let slip our only chance of doing good. I have a record of one case in which pain developed in the middle of the night. The interne was called and ordered an injection of morphine. This quieted the patient until late the next day. When I saw him he was moribund, and he died shortly afterward. It should be a rule without exception that, for sudden abdominal pain, morphine should be absolutely withheld until we have satisfied ourselves that it is not due to some fatal emergency amenable to surgical relief.

As I look back I appreciate that I have let slip a number of opportunities where I could have operated in this condition and might have saved life. Some of these went to their deaths, although we were fairly certain as to the pathology, but lacked the courage of our convictions.

I have, however, one operation to my credit which resulted successfully. In this the operation was done fifteen and one-half hours after the initial pain, and the perforation was found twelve inches proximal to the ileocecal valve and was three-eighths of an inch in diameter. The symptoms were sudden, intense pain and marked rigidity, and the extravasation within the abdomen was held under great tension.

In the success of the operation time is an important element. General anesthesia is preferable, the incision is best made through the right rectus, the cecum is sought, and the ileum examined proximally, over 95 per cent being in the last three feet of this part of the intestine. The abdomen may be flushed, and drainage is to be liberally provided for.

I believe that in the near future very many more of these cases will be operated on, and with a lessened death-rate.

I have histories\* also of perforations of the stomach and duodenum, of the gall-bladder, the urinary bladder, and the uterus, either as the result of disease or due to trauma. These all give special points, peculiar to each, as regards diagnosis and management, but it would make this paper too bulky to go into detail. The one point common to all, in order to give the best results, is that the perforation must be closed.

A large number of emergencies within the abdomen result from intestinal obstruction, but this subject is so large that I can touch only on a few points, taking my text largely from disasters which have occurred to me, or which I know of in the practice of others.

The etiology may be either dynamic or mechanical. Of dynamic cases, most are the result of peritonitis, although paresis may, and does often, result from manipulation during operation.

The most common mechanical causes are strangulated hernia, both internal and external; strangulation from bands and kinks; intussusception; volvulus; enteroliths; inflammatory exudates, and tumors.

The prognosis depends on the length of time the obstruction persists, and on whether gangrene of the intestines is or is not present. Thus one series of cases gave 75 per cent recoveries in cases in which the obstruction was relieved on the first or second day, but only 35 per cent when relief was not obtained until the third day. One of the most difficult points for decision is to determine whether post-operative obstruction is adynamic (*i. e.*, septic) or mechanical. With the greatest care possible to guard against sepsis, and often in the simplest cases, we are every once in a while surprised and discouraged to find a case of septic peritonitis develop, and result in death.

A few years ago I removed an ovarian cyst with no adhesions through a two-inch incision in about ten minutes, in a well-appointed hospital. The



bowels refused to move, and I reoperated on the third day, expecting to find a mechanical obstruction. There was none, but, instead, there was a streptococcic peritonitis, from which death resulted on the fifth day.

On the other hand, I have allowed a case of mechanical obstruction, which I remember, to die because I was sure the paresis was due to infection. This was a boy ten years of age who fell on a picket-fence, one of the pickets entering the body through the anus a distance of seven and one-half inches. This\* was covered with feces when withdrawn. Abdominal section revealed a one-inch separation of the small bowel from its mesentery, which necessitated resection. After forty-eight hours there developed pain, vomiting, temperature 101°, and pulse 120. This continued in the fourth day, and on the fifth the wound was reopened and an enterostomy wound made. Death followed early on the sixth day. Autopsy showed the absence of peritonitis, but an obstruction from kinking due to adhesion of the bowel in Douglas' cul-de-sac.

My experience with cases of strangulated hernia has formulated for me certain facts and principles which I would like to consider for a moment. Being a condition with such pronounced and localizing symptoms and signs, and having had evolved for it, in recent years, so definite a plan of treatment, which, if followed, ought to be almost invariably successful, one is surprised, when he investigates, how many deaths are caused by it. The reason for this is due partly to the neglect of the patients themselves, but largely to improper treatment on the part of the medical attendant. A few cases escape early diagnosis altogether. This occurs most often in small femoral hernias in very fat women. When such hernias become strangulated, the patients often fail to connect their symptoms with the small lump they have carried so many years, and so do not mention it to the physician. The physician, on his side, may also fail to examine the usual hernial openings, or if he does examine them he fails, till too late, to discover in the fat the small tumor which is the key to the situation.

A few other cases, examples of Richter's or partial hernia, lead to the error either that the hernia has never been strangulated or, if so, that the strangulation has been relieved. This error is made possible because of the mildness of the early symptoms, and from the fact that several movements of the bowels with passage of gas

may have taken place. One such case occurred in our early practice, the patient's bowels moving on the first and third days; yet on the fourth day operation revealed gangrene of eight inches of gut, with such extensive changes beyond the visible gangrene as to lead to subsequent perforation and death.

The treatment of strangulated hernia resolves itself simply into relieving the constriction at the earliest possible moment, and if all cases were promptly brought under treatment, this would be the whole story. This relief is sought to be obtained by two methods, both surgical, viz., by manipulation, the so-called "taxis," or by a cutting operation. Of these, the latter is by far the better and is followed by the best results. It is well for us to bear in mind the sharp limitations of the safe use of taxis. I think it is in the experience of most surgeons that a case of strangulated hernia treated as follows is pretty sure to end in disaster:

First, the patient himself, finding his rupture does not return with its accustomed ease, uses more and more force for a prolonged time; then the physician, not willing to admit *his* skill less than the layman's, uses taxis *without* and then *with* anesthesia; then the surgeon is called, and, unless he is wise from experience, he also may make an effort to reduce by manipulation. Taxis should not be used *at all*, (1) if the patient himself has already made much effort at reduction; (2) if gangrene is *possibly* present, *i. e.*, after eight to twelve hours; (3) if the sac is under much tension; (4) if previously irreducible. Neither should it be used under *any* circumstances for longer than five minutes, and then only gently; nor attempted under anesthesia until all preparations have been made for operation under the *same* anesthesia. It is well to bear in mind that taxis carries with it certain dangers, such as rupture of gut, forcing the septic contents of the sac into the general peritoneal cavity, reduction en bloc, etc.; and that it has a mortality of from 10 per cent to 15 per cent. Personally, I have had to regret the employment of taxis and the delay of a cutting operation.

Because strangulation is a fatal emergency unless relieved, delay is not permissible. Coley says we are not justified in attending to any other business until reduction has been accomplished. Nor is age or *any* condition a bar to operation in the face of strangulation. I have operated successfully on a man of 74 years who was in



the acute stage of pneumonia, and, at the other extreme of life, on a baby forty days old. Erdman, of New York, reports a successful case on a baby two days old, premature at seven months, who was taken from an incubator for operation.

I have histories also of a number of cases of acute obstruction of the bowel, due to intussusception, volvulus, bands, and carcinoma of the sigmoid, all of which are interesting and instructive, and which point more than one moral, but their discussion would occupy too much time, and indeed the great lesson is the same in all,—early diagnosis and early operation.

Cases of tuberculosis within the abdomen not infrequently give rise to emergencies which may be very disastrous in their results. If the focus of disease can be totally eradicated or if the peritonitis is serous in type with no adhesions, no difficulty is likely to arise; eradication in the one case or simple laparotomy in the other is successful in the vast majority of cases. It is very different, however, in those cases in which the type of peritonitis is adhesive or ulcerative. Frequently these cases are not diagnosed prior to section and possibly not until the operation has gone along for some time and when it is difficult to recede. We are liable to keep on doing a little more and more in the hope that we can extricate ourselves from a bad situation, until we see the hopelessness of our efforts. But, by that time, we have probably done irreparable damage in the tearing off of adhesions, and possibly opening the intestinal tract. Frequently these patients have not been very sick prior to operation; afterwards there is present, either immediately or developing later, a fecal fistula which refuses to heal and persists until death.

There is no question in my mind that too much surgery in these cases is distinctly bad, and I would warn especially against separating coils of intestine which are firmly bound together. Only in the presence of acute obstruction of the bowel would I be tempted again to do this, and then only because I was choosing the lesser of two evils. If the uterus and ovaries and tubes are not adherent to the intestine, they may be removed with safety and benefit; if adhesions are present these organs are best not disturbed. If the appendix can be excised without cutting into tuberculous tissue this also may be done with safety; otherwise not, for a fecal fistula is almost sure to follow, and such a fistula, in my experience, is practically invariably fatal.

On the other hand, if these bad cases are subjected only to a laparotomy wound and nothing more, and subsequently placed under proper medicinal, dietetic, and hygienic treatment, not a few of them will be improved and some may be cured. Three years ago I opened the abdomen of a young woman with marked pelvic disease, for repeated attacks of almost complete intestinal obstruction. Nothing was done because the condition was considered hopeless, but she is now married and in apparently good health. On the contrary, I have amputated an appendix through suspicious tissue, the wound healing *per primam* only to break down subsequently, forming a fecal fistula which refused to heal and which eventually ended in death. I know of other cases in which extensive operations were done on the internal female genitalia (tuberculosis not being suspected), extensive adhesions between coils of bowel being liberated, which were rendered much worse by operation, death resulting in a longer or shorter time. Such cases are unfortunate from any standpoint,—from that of the patient, of the surgeon, and of the profession as a whole.

Extra-uterine pregnancy is under all circumstances an emergency. If diagnosed before rupture, I think we should lose no time in efforts to destroy the fetus by means of electricity, punctures, etc.; while doing so the patient may suddenly die from a large intra-abdominal hemorrhage. In looking over the histories of my cases I find that in every one of them warning had been given of the final hemorrhage for which operation was done. This warning consisted of a sudden attack of pain in the lower abdomen with a sense of faintness, and this was in a number of cases repeated. There was also almost always a history of some abnormality in the recent menstrual condition, either the last period being missed or delayed or the flow lessened in time or amount. If, with the above history, we find a swelling in the pelvis, I would consider the diagnosis positive and advise immediate operation. Such operations I feel sure would forestall in most cases the final hemorrhage and save many lives.

In the presence of active hemorrhage and collapse, it is more or less of a moot question whether operation should be immediate or delayed till the shock is somewhat recovered from. For myself I feel that operation without delay is by far the safest method. But the operation has to be done quickly, and in fact can be done in a few minutes. As soon as the abdomen is en-

tered no attention should be paid to the free blood, which may spurt out with considerable force. The uterus is to be sought as a landmark, the mass on either side grasped and brought up, and clamps applied. No effort should be made to cleanse the abdomen of blood, but I frequently have had normal salt solution poured in while I was applying the sutures to the abdominal wound. In desperate cases I have the abdomen prepared before anesthesia, and close with through-and-through stitches.

In conclusion, I wish to explain that when I gave the subject of my paper to your secretary I did it without thought as to how extensive it might be made. When, however, I began to look up in my case book the various important emergencies which I have encountered, I found it necessary to curtail, and so have brought to your notice only those types which we most frequently meet.

## PHYSICIANS' INVESTMENTS

(A Series of Five Papers)

### FARM MORTGAGES—FIRST PAPER

BY ALFRED E. DICKEY

Vice-President of the Wells & Dickey Company of Minneapolis

MINNEAPOLIS

Out in the heart of the great flax belt of North Dakota lives Ole Janson. Ole came to North Dakota about ten years ago. He arrived with his entire worldly possessions on his back or in a small telescope, in money about seven dollars. He worked for one season and bought a team and wagon. By the next season he did a little farming on shares, acquired some machinery, and the third year was able to buy a quarter section (160 acres) of land on easy installments. In five years he had the entire land paid for, with a good house and barn, besides having acquired about twenty cattle and beasts of burden, not to speak of a wife and hustling little family.

Ole had started with nothing, and in the five years had lived, supported a family, and had a property worth about five thousand dollars. He had already begun to look about him for more worlds—or at least more earth—to conquer. An adjoining quarter section was offered him, a fine and tempting piece of land, to be had at a bargain, four thousand dollars, but this time no easy installments. He must pay all cash, and pay it at once. Ole had no cash. He must borrow, with the whole half section to offer as security.

Now, Ole knew, and all his neighbors knew, and every bank within forty miles knew, that a four thousand dollar mortgage on three hundred and twenty acres of land within five miles of Courtenay, North Dakota, was just as good as a government bond, for he not only had land to offer which would then sell for more than twice the amount of the loan, but it was land that would actually produce more grain and more

money than the high-priced lands in Illinois and Iowa. But his neighbors, while all prosperous, and making money, had nothing to loan at interest rates. They were straining every muscle to buy land that they knew would soon be worth sixty dollars an acre, while it was still twenty-five and thirty. The banks could loan only on short time at higher rates, besides wanting all his cattle and horses as extra security.

Ole is only a fair sample of a thousand others who want to borrow, have the best security on earth to offer (land that will earn in an average year nearly half the amount of the loan), and yet live in a country where the opportunity to make money in other directions is so great that no one who does actually know how good the security is can afford to loan money for five years at any such interest as such investments ought to pay.

Somewhere east of the Mississippi dwells Mrs. Smith, a widow with \$3,000 life insurance money. The savings banks will pay her 3 per cent and she can possibly loan to a neighbor at 5 per cent; but she will probably be taxed half the interest on her mortgage, besides paying a country lawyer to examine the title, draw the papers and look after the insurance; and if the country lawyer makes a mistake, as happens only too often, he is generally irresponsible and Mrs. Smith must suffer. If she could only loan to Ole Janson, way out there in North Dakota, she could make 5½ per cent, besides being able, if her conscience permits, and as about nine in ten in her place would do, to join the great Ameri-



can army of tax-dodgers and have her  $5\frac{1}{2}$  per cent clear and free.

Mrs. Smith again is a type of thousands. She needs Ole, and Ole needs her. She does not know him, never heard of him, yet the perfect security and the increased income are there. How is she to have them, and yet know that she is protected? This is the great problem of the farm mortgage investment.

Wisely handled and properly managed, the security of a farm mortgage is as good as any bond that is issued, and the rates are one to three per cent higher. The largest investors in farm loans are the life insurance companies, and their records are a convincing, indeed an overwhelming, argument in favor of farm loans. Eight of the larger companies, with combined assets of over half a billion, have an investment in farm loans of nearly a hundred and fifty millions. Of their experience in past loans, covering a period up to forty-five years, six of these companies report they have never lost a dollar on farm loans; another, practically nothing; and yet another, "less than one-tenth of one per cent". The president of one of the strongest of these companies writes as follows:

This company, in the investment of its funds, has been making loans secured by mortgages on real estate since 1860, a period of forty-four years, during which time the company has loaned and reloaned \$236,000,000 on this class of security. Of the entire amount about 25 per cent, or \$59,000,000, consisted of farm loans. The safety of such loans, when made with due care, is illustrated by the fact that, while the company has had occasion to foreclose a few farm mortgages, it does not own a single farm, and has lost nothing on account of its farm loans.

Peculiarly strong is the security of good western loans, made on lands which will produce as much income and therefore are of the same actual working value as the high-priced lands of Ohio and Indiana. The price of the western lands, where properly selected and located, is steadily advancing and will steadily advance till it equals that of land in the Ohio valley, which can intrinsically produce no more. Ole Janson makes more to the acre from his land than any grain or stock farmer east of the Mississippi, and his land produces more than the farms on which Mrs. Smith at home would have to loan thirty-five or forty dollars an acre. Ole asks to borrow less than ten dollars to the acre. Considered from a permanent standpoint, Ole undoubtedly offers far safer and more ample security than Mrs. Smith could find at home.

But again comes the question, How is Mrs. Smith to be satisfied that all this is true? The loan must be made through a middleman, a bank, or company, and the question comes, rather, How is Mrs. Smith to select her company through whom loans are to be placed? She should primarily deal through a thoroughly established investment house of long experience and with a reputation, one which is more interested in Mrs. Smith's renewals in five and ten years and in getting the business of Mrs. Smith's friends and neighbors than in merely placing one loan. The temporary loan agent who is here to-day, gone tomorrow, here this year and gone the next, who does not bring with him the most unmistakable evidences of permanence and stability, is always to be avoided; nor will it do to rely too completely on references. Anybody can furnish references. Country banks and merchants will lend their names to almost any sort of customer. The "get-rich-quick" concerns and the patent-medicine man will furnish references galore. If references are to be relied on at all, they must be of thorough responsibility, such as the great banks in the larger cities.

Far better than any possible reference is to visit the loan field, see some of the loans offered, and see the loan company's manner of placing and investigating loans. Any loan company which is doing a really reliable business will welcome the opportunity to show its methods and its loan fields directly to the investor, and any investor who contemplates the investment of any considerable amount ought to see for himself where his money is going. And it is a trip which, if undertaken at the right time of year, will be as healthful and as interesting as a trip to the mountains or the seaside. The western prairies, while they look monotonous from a car window, are teeming with life and interest when one drives over them with an intelligent guide.

If one cannot visit the western field, it simply comes to a question of the investor's confidence in the loan agency. Here, as we have said, permanence is the first preëminent essential. Another almost as important is that the loan dealer shall have shown faith enough in his own wares first to put his own money into them. Still another essential is a personal examination by an unprejudiced and therefore salaried agent of the lands in question.

One of the strongest of the northwestern loan companies, a company which in twenty years has not lost an investor a dollar, writes informally as to its methods of selecting and closing loans:



One of our executive officers gives his time exclusively to the loan business and two others keep in constant touch with it. All three of these make frequent trips through the loan fields, and this does not mean merely a trip on the railroad to talk to a country agent, but he drives all about the country. There are dozens of townships, and in fact almost entire counties, in which our officers have driven, and in many cases repeatedly, over practically every square mile. Besides these, we have two salaried fieldmen who travel and drive continually inspecting and soliciting loans. Both have been in the business for years (one in our own employ for eight years), and they are experts on quality of soil and sub-soil, drainage, character of breaking and cropping, and all the other things that in any degree affect the security. If any application is sent us for a loan in any township with which our officers are not already generally familiar, we have a personal examination made immediately, and, indeed, where there is a loan anywhere upon which we feel a reasonable doubt we examine the land before making it. As our applications for loans come in, some of our officers are already familiar with most of them. We have in our possession all the reports of the Northern Pacific Railroad Company on the quality and grade of the railroad lands, besides a vast number of plats and personal reports which we have accumulated during more than twenty years, all of which are so classified as to be immediately accessible, and then, above all, our local agents are all under bond whereby they agree to take back any loan upon which they shall have in their examiner's report made any untrue or grossly exaggerated statement. We then make it a point to round up and examine all these loans within two or three months after they are made. So thorough are these methods that we have never yet in our experience had to ask a local agent to take back a loan.

On titles and on execution of papers our work is equally thorough. Two of our officers are trained lawyers with years of special expert experience in examining abstracts of title. We have never had a title, passed by one of them, fail or give us any subsequent trouble. Time and time again applicants have offered titles which have been passed by country lawyers, but

in which our examiners would find flaws that would have led to serious trouble and perhaps serious lawsuits if not perfected at the time. Only three or four days ago we had a title submitted which had been through several receiverships, probates, and foreclosures, and which the best lawyer in a town of two thousand had then been employed to straighten up. There was no opposition to his suit; it was simply a case of seeing that a formal and technical legal proceeding was properly done. It was apparently his first experience and he made two or three serious mistakes. It must now be done over before the title is safe and good. To an expert title man it was merely A B C to get this right.

This quotation will illustrate a few of the difficulties in the loan business. To look after fire insurance on buildings, collections of interest, see that the taxes are properly paid and protected if not paid, require experience and thorough expert and continuous attention, and are matters all easily overlooked by the investor himself or by his country lawyer and local real estate agent. But when properly done by an established and experienced agency, one which is both financially and morally responsible for the proper doing of all the incidental things necessary, there is nothing in the investment line which can equal in security and rate of return a farm mortgage in a growing country where the land is steadily advancing and bound to advance.

Farm mortgages are free from market fluctuations, are little influenced by political changes, and have the individual quality not possessed by bonds and other securities whose lien is shared by others having a like investment in the property.

In last analysis, however, it comes simply to this, properly placed by a responsible and well-managed investment company, the western mortgage, among all investments, offers equal security and a better income.

## MEDICAL EDINBURGH

### PROFESSOR BERANECK'S CLINICAL LECTURE

BY S. P. REES, M. D.

MINNEAPOLIS

Edinburgh is picturesque, historical and medical. To prove the first a mere glance at its chief characteristics is sufficient:—the castle on top of that high and rugged cliff; the West Princes Street Gardens deep below; aristocratic Princes Street on the opposite side overlooking this valley; Calton Hill with its monuments on one side; Arthur's Seat on the other, and the Pentland Hills looming up in the distance. His-

tory and literature abundantly testify to the second quality here ascribed to old Dunedin. It is about the medical aspect the writer wishes to say a few words, hoping they may be of value to medical men contemplating a visit to Scotland.

First of all, the material is abundant and concentrated. The Royal Infirmary is located next to the University buildings, and every ward and

patient are utilized for teaching purposes. The Infirmary admits anybody from anywhere. It has 900 beds, all occupied. The out-patient departments receive daily in surgery about 250 patients, and from 40 to 50 in medicine, in addition to large clinics in the special departments of the eye and of the ear and throat.

Not only is all material in the hospital available, but by a peculiar arrangement a large corps of expert lecturers and clinicians do the teaching. The wards are divided among two groups of men: (a) professors and instructors in the University, and (b) extra-mural physicians—men who are not in any way connected with the University, but who give clinical lectures and ward clinics, and whose work can be elected by the student and count in his course towards his degree. Among these most able men we count in medicine Byrom Bramwell, George A. Gibson, Alex Bruce, R. W. Philip, William Russell, and very many others of the same type. The work presented by these practical "field-men" is most instructive. The clinics have impressed me on account of the thoroughness of the examinations, the familiarity with the nervous system shown by the English physician, and the thoughtful consideration always given the patient. Only one great drawback to the visiting student is to be noted. All the clinics, clinical lectures, and operations take place between 11 A. M. and 1 P. M. This prevents one from hearing more than one of these men a day. This arrangement is for the convenience of the instructors. How far it is complained of by the undergraduate I know not.

The medical is by far the largest and strongest department in the University, and its new buildings were placed next to the hospital in order that clinical teaching might be as conveniently undertaken as the didactic work. The course continues from October to the middle of July.

For advanced work, a "post-graduate vacation course" is given during September. This year it begins August 30th and ends September 25th, and offers classes in all the common branches of medicine. A course of twenty special lectures on advanced topics is given during the month by leading men in these subjects. To my mind, nothing could be more profitable for the average physician who seeks a little "brain dusting" than to come here for this course, for here he can understand the language fully, become acquainted with the methods of the English physician, find his work concentrated in one block

of buildings, and be urged on to effort by the weather, which is always cool enough to allow hard work in spite of an overcoat.

There are many other hospitals and related institutions. Chief among these are the Royal College of Physicians with its splendid library, and the Royal College of Surgeons with its museum and book collection. The work for tuberculosis as organized by Dr. Philip more than twenty years ago, and further perfected each year, deserves special attention. His dispensary was started twenty-two years ago, and is now located nearly opposite the Royal Infirmary. It is the central office and clearing-house for the whole system he has built up. The Royal Victoria Sanatorium for suitable cases is a beautiful rolling tract of land, well wooded, and located on the very edge of the city proper. The eighteen acres are laid out in beautiful drives and lawns, hold six model, fireproof cottages besides the dining-hall and administration buildings. The plant is a model in construction, cleanliness, and artistic conception. The colony (a farm of some fifty acres lying ten miles out of the city for arrested cases who graduate from the Sanatorium, but who need for some time special work and special environment) is now under construction.

"The Edinburgh Idea" is a practical working system, and it is well worth a little time and trouble to see the organization at work. Many come to inspect it. Professor Edward Beranek, of Neuchatel, was a recent visitor, and while here addressed the medical students during Dr. Philip's hour. On my suggestion, he has prepared a synopsis of the lecture he gave us on that day, and because he is a well-recognized worker in tuberculin and because the subject is just now a timely one, I forward the notes with his permission for the readers of *THE JOURNAL-LANCET*.

#### SYNOPSIS OF PROFESSOR BERANECK'S LECTURE

Professor Beranek, after thanking Dr. Philip and the audience for the kindness of their reception, made an eloquent statement in French expressive of his appreciation of the anti-tuberculosis system, which he had had the opportunity of studying, both at the Royal Victoria Dispensary and at the Royal Victoria Hospital for Consumption, in Edinburgh.

Proceeding to speak in English, he explained the nature of his tuberculin, the method of its production, and the mode of exhibition. The aim of tuberculin treatment is (1) to prevent the spread of infection by strengthening the resist-



ance of the leucocytes to the tubercle bacillus by bringing into play their bacteriolytic ferments; (2) to encourage the production of antibodies which would neutralize the bacillary toxins. Towards this end it was impossible to make use of living bacilli, even though attenuated. It was necessary to have recourse to soluble toxins, separated from bacillus cultures and more readily absorbed by the infected individual, toxins whose pathological effects could be more definitely gauged.

Two sets of toxins were to be recognized, namely (a) exotoxins, which were highly soluble, and (b) endotoxins, formed within the body of the bacillus, which were less readily diffused. It was probable that in tuberculosis it was the endotoxins which played the chief part.

The tuberculin which was associated with his (Beraneck's) name contained both (a) exotoxins, formed by the bacillus in a special bouillon medium to which no commercial peptone had been added, and (b) endotoxins, which he extracted from the bodies of the bacilli by means of orthophosphoric acid, 1 per cent. The method of extraction was fully described.

His tuberculin was only slightly toxic. As much as 10 c.c. injected, subcutaneously, was not fatal to a normal guinea-pig. On the other hand, it had potent influence on tuberculous animals. Thus 1 c.c. was sufficient to cause death in a tuberculous guinea-pig of 700-1000 grams in weight. The tuberculous patient was similarly very sensitive to the tuberculin, reacting even to as small a dose as .000,000,06 c.c. He laid particular stress on the fact that while his tuberculin was thus very potent, its toxicity was small. His tuberculin was essentially a vaccine, not a serum. It contained toxins of lower pathogenicity and more freely absorbed by the patient's circulation. These served to stimulate, not to inhibit, the patient's means of defence.

Successful treatment of course depended on the power of the infected body to absorb these toxins and to respond to their stimulation by a physiological reaction. This power of response varied in different patients and also in the same patient at different stages. Further, the tuberculin, which if injected in suitable doses served to stimulate the defensive mechanism, had no such effect or had even a prejudicial effect when injected in too large doses. Mistakes had frequently occurred through lack of attention to this point. Immunization did not proceed, *pari passu*, with the quantity of tuberculin administered. It was most important to proceed cautiously with a

view to determining in each case what was the optimum or operative dose. To exceed the optimum dose, in the belief that because it was well tolerated still greater doses might be tolerated, was to risk a passage from the desirable vaccine action of tuberculin to a neutral or even harmful effect.

He explained the methods of diluting his tuberculin, and recommended for general use the scale of solutions which had been introduced some years ago by Dr. Philip, which was as follows:

Tbk<sub>1</sub> = 1:10  
 Tbk<sub>2</sub> = 1:100  
 Tbk<sub>3</sub> = 1:1,000  
 Tbk<sub>4</sub> = 1:10,000  
 Tbk<sub>5</sub> = 1:100,000  
 Tbk<sub>6</sub> = 1:1,000,000

The optimum dose was not the same for all individuals. It might be found in some persons after several injections of .05 c.c. of Tbk<sub>5</sub>, while in others it might be found in one of the higher dilutions. It was only by a sufficiently protracted trial that we could ascertain whether the protective cells of the body infected with tuberculosis remained capable of favorable stimulation by the vaccine influence of tuberculin.

Professor Beraneck cited cases to show how cautiously and systematically the optimum dose must be sought. It could only be found in each particular case by groping after it. To this end, two things were essential: (1) careful observation of all the clinical symptoms and manifestations, and (2) cautiously graduated dosage. Whenever an injection was followed by a definite reaction, whether constitutional (temperature, pulse, unusual symptoms) or local, proof is afforded that the optimum dose has been exceeded. The next dose must therefore be smaller. With the continuance of treatment the optimum dose would frequently be represented by increased dosage, the amount being carefully determined by accurate examination of the patient's condition.

Speaking of the opsonic index, he was decidedly of opinion that it did not afford a certain gauge by which to control the therapeutic dosage of tuberculin. The opsonic index showed the relative phagocytic activity of the leucocytes of the tuberculous patient as compared with a healthy person. But he did not think the phagocytic activity was in itself an adequate criterion of the degree of immunization against the tubercle bacillus and its toxins which was present. Wright's method had been of much service in bringing to light many interesting facts about



the negative phase which usually followed the injection of tuberculin. But the method only dealt with one aspect of the question of immunization,—the most apparent perhaps, but not the most essential. The degree of immunization obtained by tuberculin treatment and shown by therapeutic results was not necessarily associated with a return to the normal opsonic index. Some patients improved in spite of a subnormal opsonic index. Others remained where they were or got worse with a normal index or even one above normal. He cited the facts accumulated by Kinghorn, Twichell, Carter, and Werry in Trudeau's laboratory at Saranac, and also Dr. Philip's published opinion on the subject.

In conclusion, Professor Beraneck indicated that he felt justified in making the following definite statements:

1. The tuberculin (Beraneck's) is not a serum. It contains no antibodies. It contains exotoxins formed by the tubercle bacillus in a special bouillon culture, and endotoxins extracted from the bodies of the bacilli by a special method.

2. The tuberculin is very slightly toxic for the normal animal. On the other hand, its power

of inducing a reaction is very marked in tuberculous patients.

3. The toxins which the tuberculin contains are not identical with the toxins formed by the tubercle bacillus *in vivo*. They belong to the same family, but they are attenuated and selected with a view to their vaccine effects.

4. The curative action of the tuberculin depends on a stimulation of the body's defences and a reinforcement of their resistance to the pathogenic action of the tubercle bacillus and its toxins. If these are not in a state to be favorably influenced by the tuberculin the therapeutic result will be nil. Hence the importance of beginning treatment at the earliest possible moment.

5. It is not right to aim at injecting the maximum possible dose. It is the optimum or operative dose which is desirable. This optimum dose or doses should be repeated so long as a useful result follows.

6. Febrile cases are quite suitable for treatment if extra care be taken to commence and progress with suitably small doses.

## SOME OBSERVATIONS UPON AN APPARENTLY NEW DISEASE\*

By W. E. CLARK, M. D.

FREDERICK, S. D.

During the months of July, August, and September, 1907, an epidemic appeared in our community of what is apparently a new infectious disease. I attended about one hundred cases, and after my report was published in the Jour. of the A. M. A., in October, I received communications from many different physicians in North and South Dakota, Iowa, Nebraska, and Montana, who had seen numbers of such cases, and who, like myself, had made no definite diagnosis.

The malady attacks children and young adults by preference. I have seen but three cases in people over thirty-five. The symptoms seem to be more severe in patients from twenty to thirty years of age. The proportion of females attacked to that of males is as three to one. Many more cases occur during the hot, dry days than during the moist, cool ones. As to con-

dition of life: There are just as many victims among the well-to-do and well-nourished as among the poor and poorly nourished.

Loss of sleep, overwork, and worry seem to be strong predisposing factors.

I have noted that those affected have used milk largely as a beverage, and this may account for the greater prevalence among women and children.

*Symptoms.*—The incubation period is unknown. The patient complains of chilly sensations, general aching, anorexia, and colicky pains about the umbilicus. These are followed by a terrific headache coming on suddenly and reaching its maximum in twenty-four hours. Very severe pain in the eyeball is complained of, and there is intense photophobia. Severe pain in the back of the neck and in the lumbar region is felt.

The temperature rises to about 102.5 F. at the end of the second twenty-four hours, and

\*Read at the 27th annual meeting of the South Dakota State Medical Association, held at Yankton, S. D., September 2-4, 1908.

gradually declines to become normal or sub-normal on the third or fourth day.

Violent emesis occurs on the second, third, or fourth day, and seems to afford transient relief.

Generally, the patients are constipated during the attack, but some suffer from diarrhea during convalescence.

The pulse-rate is about 100, but drops to 40 or 50 as the temperature declines to normal.

Patients suffer much from exceedingly cold extremities during and after an attack. The toxin, or toxins, must have some selective action on the peripheral blood-vessels, causing great contraction, as in no case was the heart's action weak, and this symptom cannot be accounted for in any other way.

Some patients are almost maniacal; all moan and groan much; and occasionally one is slightly comatose for a couple of days, especially if the kidneys are affected.

Albuminuria is present in most cases; sometimes of severe grade.

Pain in the eyeball is the last symptom to disappear, and patients complain of being "light-headed" for some days.

The pupils are equal and re-act to light. There is no strabismus; no retraction of the head; and no Kernig's sign.

In the severe cases, some impairment of hearing has been noted for some weeks after an attack.

Treatment is not satisfactory. The only measures that I have found of value are free purgation with calomel, ice on the head, counter-irritation to the back of the neck, hot foot-baths, and confinement to a darkened room.

Acetanilid, phenacetin, the bromides, codein,

etc., seem to aggravate, rather than relieve, the pain.

Massive doses of morphine hypodermically will give partial relief for two or three hours, after which the pain seems accentuated.

Some physicians have reported partial relief following the use of very hot applications to the head and the use of caffeine, but I failed to secure their good results.

No examination of either blood or feces was made, but my impression is that the disease is due to an infection by way of the gastrointestinal tract and that probably the causative agent is transmitted by infected milk.

The nervous type of influenza was suggested as a diagnosis, and eliminated for the following reasons: absolute immunity of elderly people; absence of catarrhal symptoms in all cases; prevalence of the disease in the hot, dry season, and prompt disappearance after the severe freezing weather; fairly prompt convalescence; no sequelæ or failure of health after an attack.

Dr. Goldberger of the Public Health and Marine Hospital Service suggested dengue as a diagnosis, as did physicians in Mexico, but it was eliminated for the following reasons: absolute immunity of old people; no eruption in any case reported; no jaundice; prompt convalescence; locality (Northwestern states); no secondary fever; no hemorrhages.

I have intended making thorough bacteriologic examination of dejecta and blood in case the disease again became prevalent, but up to this date I have seen no case in 1908.

While there have been no fatalities reported, I thought a brief description of this peculiar and, as I believe, hitherto undescribed disease would be of interest to you.

## THE KELLY PAD AS AN ADJUVANT IN THE TREATMENT OF GASTRO-INTESTINAL DISORDERS

By J. T. LELAND, M. D.

HERMAN, MINN.

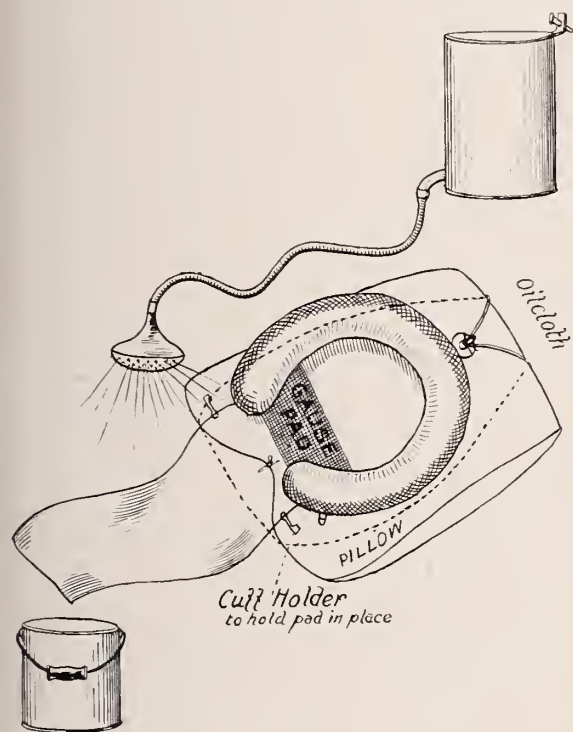
In the treatment of infants who display marked intestinal derangement rest of the intestinal tract is generally understood and its application almost a household remedy. The general physical conduct and treatment of the infant, *per se*, however, is dismissed with scant consideration.

To tell the ordinary housewife that the child

must have its rest is interpreted as hugging to a torrid breast and "jouncing" the afflicted into the coma of exhaustion. To douche the colon and withdraw the milk is ideal treatment, but we must remember that the intestinal tract is surrounded by a living child who demands consideration.

The Kelly pad, fully inflated, attached to a pillow, with two or three yards of "table" oilcloth, supplies a very convenient method of compelling rest. The child's clothing is removed except a light band and "slip," and the mother is instructed to keep the infant upon the pad (under which is the oilcloth in case of accidents in using the douche, etc.). The inflated edge makes a comfortable pillow. His napkins (cheesecloth with strips of cotton) are removed and burned, while a small pad of the same is kept constantly over the lower one-third of the Kelly pad.

Douching is readily carried out without handling, and not only douching of the intestinal canal, but by attaching an ordinary sprinkling-



can nozzle to the douche, general bathing may be carried out, and because of its convenience it will be. If the mother insists upon holding the infant, the pillow and all are taken up, with the result that the child is not subject to the maternal thermal clasp.

The objection that every case cannot be supplied emphasizes its importance in late cases with pyrexia and auto-intoxication pronounced, cases which the attendant knows will be lost unless he can have intelligent extrinsic rest to meet his applied intrinsic.

## MISCELLANY

### FREE ANTITOXIN STATIONS IN MINNESOTA

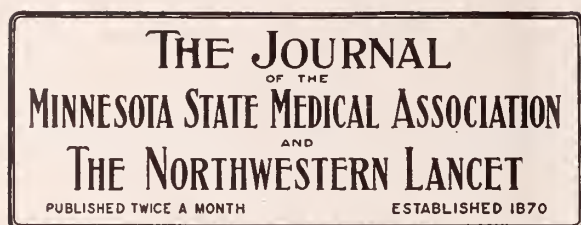
Some time ago arrangements were made with the Lederle Antitoxin Laboratories, New York City, to distribute antitoxin through the Minnesota State Board of Health for the benefit of the poor at a rate much lower than the regular price. This antitoxin was sold for 40 cents per thousand units, plus the price of the container. Thus, a 1,000-unit package sold for 60 cents; a 3,000-unit package for \$1.40, etc. Recently arrangements have been made to establish antitoxin stations throughout the state from which this antitoxin can be distributed more directly. This should greatly aid physicians in securing antitoxin quickly for needy cases.

The cost of the antitoxin falls, in the first instance, on the local authorities (township, village, or city, as the case may be), but they can recover the full amount from the persons using the antitoxin if they are able to pay; otherwise half the amount can be recovered from the county.

The stations and names of agents (agents are druggists) at present are as follows: C. J. Bender, Red Wing; W. F. Anderson, Rush City; J. W. Cook, Pipestone; F. L. Pierce, Breckenridge; John Nielson, Ortonville; Preston & Stucke, Waseca; A. P. T. Suffel, Hallock; S. A. Wallace & Co., Crookston; Anderson & Holly, Wadena; J. A. Poetz, St. Peter; E. A. Barker, Bemidji; E. H. French & Co., Bemidji; A. E. Mossberg, Willmar; Carman Drug Co., Detroit; W. C. Haney, Marshall; V. C. Head, Luverne; Potter-Casey Co., Aitkin; E. R. Dodds & Co., Tracy; North Star Drug Co., Warren; H. P. Dunn, Brainerd; B. F. Carter, St. Cloud; J. H. Beise, Fergus Falls; W. R. Smith, Benson; Barlow & Spicer, Albert Lea; Walter Robertson, Argyle; Kopp & Proulx, Cloquet; Hanson & Emerson, Sauk Center; Fred Lenz, Jr., Faribault; A. W. Shurping, Arlington; the City Drug Store, Eveleth; Julius Doxey, Mankato; Frank Thomas, Mankato; F. F. James, Two Harbors; Stewart's Pharmacy, Hibbing; Chas. Fiesler, Sauk Center.

Other stations will be chosen upon request if this plan succeeds in the stations already established.





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AUGUST 1, 1909

## STATE BOARD OF HEALTH PROBLEMS

At the regular meeting of the State Board of Health, held on July 20th, a number of important matters were brought up by the Secretary for general discussion by the Board. It might be well for the physicians throughout the state to know something more intimately about the work of the Board, or, at least, to be informed from time to time of some of their actions. For instance, at this last meeting two points were brought out which emphasize the importance and the respect for the State Board of Health.

There were two complaints relative to new sewers that were being constructed at divergent points. The complaints were filed with the Secretary, were brought up before the Board meeting in April, discussed, and then taken up with the proper authorities; and in both instances the construction of the sewers was so changed that the complaints were withdrawn without any feeling of bitterness, without delay, and with due consideration for the advice of the Board.

New regulations were adopted relating to embalming fluids. An effort has been made in

Minnesota to educate embalmers, and to educate people and sanitarians that it is essential that embalming fluids do not contain certain ingredients, particularly chloral, arsenic, mercury, zinc, or other mineral poisons; and the regulations are also so worded that different amounts of embalming fluid shall be injected into the body in proportion to its weight. Further, the Board asked that the manufacturers of embalming fluids furnish the Board with a list of ingredients contained therein. This will probably precipitate some discussion, and may cause some feeling, but the Board feels that its position is right, and will entail no hardship on anyone except the consumer, or the persons who pay for the embalming, but this is a small matter and can be very readily adjusted.

A discussion of the quarantining of diphtheria patients was brought up, as is usual at every meeting; the various points were discussed, and finally a revision of the old regulation was made. The new regulation makes it easier for the patient, the family, and the physician, and yet there are the necessary restrictions for the safety of others. Provisions were also made for the release of the nurse, or other person, who has been under quarantine, and who may wish or may be obliged to leave the case before the quarantine period has expired.

Regulations relating to library books that are loaned to patients suffering from communicable diseases, brought out the possibility of probable disinfection of books and periodicals, or, if necessary, the destruction by burning in order to prevent the spread of disease from this source.

The relation of the State Board of Health to the State Antituberculosis Association, to state sanatorium problems, and to the propagation of literature for the benefit of tuberculosis cases, is a constant subject for discussion. The Board is willing to co-operate harmoniously in any effort to diminish the spread of tuberculosis, and no hasty steps have been taken, and only those regulations which will be convenient and helpful to all have been adopted at any time.

The engineering department of the State Board of Health is a very important feature. It covers a large part of the work of the Board. It considers co-operative work with the Drainage Commission; it has to do with the heating of school-houses, the inspection of plans for all public buildings, the construction of sanitary plants, and the examination of water supplies. The technical work of water analysis is very interesting, and shows very clearly the need of

closer attention to prevent pollution of streams.

In the epidemic of typhoid fever at Mankato some months ago, prediction of an epidemic for that city was verified in a most astonishing manner. So close was this examination made, and the results which followed it, that the officers were enabled to predict within two days when the first case of typhoid would be reported after the unfortunate accident to the water supply. This epidemic was perhaps the greatest on record from various sanitary viewpoints, and will be published later in various journals, which will take up various departments of the cause and effect of the epidemic.

Regulations relative to the control of ophthalmia neonatorum were postponed in order that they might be brought before the Minnesota State Medical Association for recommendation or endorsement. It seems that only one city in the Union has rigid regulations to prevent the spread of this disease, and it is to be hoped that the Association will take this matter up seriously, and assist the Board in its efforts to be one of the prime movers in the prevention of the disease.

Regulations relative to lodging-houses in cities of 10,000 and over were presented and adopted, and they will be very interesting, and highly beneficial to the lodger who seeks a bed in the various lodging-houses. It was thought best, for the present, not to cover the entire state, for the work would be almost impossible at present in the small towns.

It is surprising how much business can be brought before a Board of this kind, and how many problems may be considered by them. For many years the Board of Health has been feeling its way along, and only recently have its members been encouraged to feel that they have certain definite police powers to regulate and to restrict unsanitary conditions.

The financial state of the Board is somewhat improved from last year, but nowhere near what it should be. This year the entire fund for all departments, including the Pasteur Institute, has been increased to \$19,500. This was about fifty per cent of what was asked for of the legislature. At the coming legislative session, two years hence, the Board will be in position to ask for a large sum of money because it will be able to show and demonstrate the needs of the state, and will be able to convince the Legislature that these needs cannot be done by economical principles, or, at least, so economical as to render them ineffective. If other states have enormous

sums of money, there is no reason why Minnesota should not have its relative amount.

The work of the laboratories has been very effective. For instance, during the quarter ending June 30, 1909, 1,280 routine diphtheria examinations were made in the main laboratories. At Duluth, 1,133 were made; a total of 2,413 examinations. These specimens were forwarded by 243 physicians, and from 205 different localities. In both laboratories, Minneapolis and Duluth, 340 sputum examinations were made during the quarter; and 65 water examinations, both chemical and bacterial, were made during this time. Twenty-one cases of rabies came in during the quarter, nine of which have been diagnosed as rabies; and during this same time 43 cases were received for treatment.

The work of the epidemiologist, Dr. H. W. Hill, shows the number of towns visited, and the character of the work done, which includes typhoid, diphtheria, scarlet fever, diarrheal outbreak, milk investigations, etc. The work carried on by the Duluth branch has been of great assistance to the northern part of the state, and the record there is equally good with that of the main laboratory.

Physicians are urged to visit the laboratories, and to see the character of the work done there. There is no question but what they will be endorsed, and every one who is interested in the work will add his influence for the increase of laboratory facilities, and for the work in general promoted by the State Board of Health.

## HYGIENIC LABORATORY BULLETIN NO. 49

The department of Public Health and Marine Service of the United States issued, in March, 1909, its bulletin, which is really a digest of comments on the Pharmacopeia of the United States of America, and is quite in line with the Council of Pharmacy of the American Medical Association. It contains a vast amount of literary reviews, and is, therefore, a valuable adjunct to the old United States Pharmacopeia.

The last bulletin has served a twofold purpose: it has interested a large number of individuals in the pharmacopeia, and it has brought forth a much greater number of comments and criticisms on its contents than has ever before been forthcoming. The work of revision of the U. S. Pharmacopeia, and also the criticisms of the various drugs published in it, show an enormous amount of investigation and experimentation, and in the present bulletin the authors have sim-



ply revised their comments upon the contents of the Pharmacopeia, and have referred to literature and criticism upon most of the drugs which are now in common use.

In looking the bulletin over, it seems as if the compilers were endeavoring to simplify as well as to give a detailed analysis of many of the drugs that were used formerly and have now been discarded because they are considered useless. One important feature of the bulletin is a criticism on various authors who have attempted to re-name all drugs and give different terminations than were formerly employed. It speaks of this as a sort of fanaticism. It is refreshing to find someone who is willing to make the nomenclature of all drugs more understandable.

The bulletin deals with various analytical data, under which head may be found adulterations, and analytical methods and results, re-agents, atomic weights, indicators, ash determinations, specific gravity, solubilities, etc. It also takes up under the head of pharmaceutical preparations their decomposition, incompatibility, galenicals, percolation, production of extracts and tinctures, sterilization, and forms of administration.

International standards are tested under one subject, and foreign pharmacopeias in another chapter, but it might be well to quote from one or two of the well-known drugs, and the first one selected is *cannabis indica*. Under this heading various authorities are quoted. Charles E. Vanderkleed examined eleven samples of *cannabis indica*, which were found to contain from 7.05 to 16.2 per cent of resin, the standard for a good drug being taken as ten per cent. Some of the samples running low were admittedly not grown in the East Indies.

John Uri Lloyd says that the adulterant of *cannabis indica*, or rather the substitution sold for it, is an American-raised plant, which differs in quality so materially from the same plant raised in its native country as to have earned for it the term *cannabis sativa*, to which the name "Indian hemp" should not be applied.

Holmes has examined a number of samples of *cannabis* of varying origin, and finds that the drug from India is more uniformly active.

Mundy outlines the following specific indications for *cannabis indica*: irritation of the urinary organs with frequent desire to urinate, and a burning sensation in the urethra; marked nervous depression with irritability, spasm, or pain, accompanied by neurotic excitement.

Under the head of coca, an editorial, in commenting on the wine of coca, says: "The intro-

duction of this product cannot be commended either on pharmaceutical, medical, or ethical grounds."

Under the head of codeina, John M. Francis points out that it is essential that codein should be tested for freedom from morphine, and also tested for solubility in water. He asserts that some samples of codein phosphate are not nearly so soluble in water as they should be for "hypodermics."

Under the head of digitalis, the usual warning that this drug deteriorates with age should have been included in the U. S. P. And the other comments re-infer the old fear that digitalis, or its preparation other than an infusion, is very unstable.

Ergot is another drug which is frequently adulterated, and as the warning says: "Ergot is not ergot because it is so labeled."

One could quote much further, and discuss the various inefficient drugs that are on the market, but the attention of the physician is simply called to the necessity of studying the pharmacopeia, and confining his therapeutics to those drugs which have a well-defined, stable base. And the more one reads the more one is inclined to be skeptical about the purity or activity of many drugs which are used carelessly and without due regard to their psychological effects.

The bulletin may be obtained by writing to the Public Health and Marine-Hospital Service of the United States.

## PHYSICIANS' INVESTMENTS

It is with great pleasure that we announce the publication in these columns of a series of papers upon the above subject. We refrain from saying a word about the necessity for such papers, for the mildest statement of the facts might seem "inflammatory." We cannot refrain, however, from congratulating our readers that they will have the privilege of reading papers of very great value to them, written by men of the highest standing in the commercial world and of marked financial ability.

We also venture to say that not a little of this matter will be entirely new to most of our readers, especially the analysis of the relation between the interest-rate and the selling-price of securities. These articles have in no sense an advertising feature. They are written at our earnest solicitation by men who are always ready to do a public service, and they are entirely free from bias, except such as is the natural result of each man's conviction that he speaks for a form of



investment that should commend itself to medical men, i. e., men who have large capacity to earn money with but small capacity to save it because of the insistent demands of their work upon their time and energies.

The series consists, at the present, of the following:

"City Bank Stocks," by F. A. Chamberlain, President of the Security National Bank of Minneapolis.

"Bonds of Low Interest-Rate," by Max Mattison, Manager of the Bond Department of the Security Trust Company, of St. Paul.

"Farm Mortgages," by Alfred E. Dickey, Vice-president of the Wells & Dickey Company, of Minneapolis.

"Country Bank Stocks," by James J. Lambrecht, President of the Corporation Securities Co., of Minneapolis.

"Investment Bonds," by Eugene M. Stevens, of the Eugene M. Stevens & Co., of Minneapolis and St. Paul.

The first paper, that by Mr. Dickey, appears in another column.

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## CORRESPONDENCE

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### CONGENITAL OR INHERITED SYPHILIS

Spring Grove, Minn., July 24, 1909.

TO THE EDITOR:

An article on congenital syphilis that appeared in THE JOURNAL-LANCET of July 15th, by Dr. Franklin R. Wright, of Minneapolis, has interested me very much. I have observed cases of that disease in congenital form, all in adults, but do not remember to have seen it in infants or young children, as it is stated by Dr. Wright it occurs. In rural districts, where I have practiced thirty-five years, acquired syphilis is very seldom met with.

Congenital syphilis is a very obscure disease and difficult to diagnose before the eruption appears. In those cases I have seen, I have traced it back to the great grandparents, and generations between have, as a rule, been immune. I remember our professor of surgery, when lecturing on this subject, quoted the Bible (Exodus 20:5), which read as follows:

"I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me." The above quotation is applicable to congenital syphilis.

Congenital syphilis, when neglected, is very apt to affect the spinal cord, producing myelitis; hence paralysis of one side of the body on either of the extremities owing to the part of the cord involved.

I will enumerate three cases of those that I have seen.

*Case 1.*—A married lady, aged 35, came to me with an ugly sore on the inner side of the deltoid muscle of the left arm. The ulcer was deep or excavated, and the edge was ragged and uneven. At that time it was my first year of practice, and I did not make a positive diagnosis. I thought it some constitutional disease, hence I prescribed potassium iodide in 10 gr. doses, three times a day. In the course of time the ulcer healed and remained so for three months, and then it reappeared. The iodide was again used for a longer time, and mild chloride of mercury was also added. Then I got a permanent result. The woman has remained well for thirty-five years.

*Case 2.*—A lady of forty came to me with a syphilitic ulcer below the left mammary gland. I diagnosed syphilis and used the same treatment with a permanent good result, and the woman has remained well for twenty years.

*Case 3.*—A lady of 45 years suffered from severe nocturnal pain in left tibia. The suffering was so severe during the night that sleep was impossible, although during the day she was comfortable. There was no visible evidence of any mark or swelling to be noticed on the limb. I came to the conclusion that the trouble was of a syphilitic origin, and the above treatment was pursued, and the result was a permanent cure. The above cases show the mark of the ulcers, which have healed up, and such marks will be permanent.

T. JENSEN, M. D.

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## BOOK NOTICES

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DISEASES OF THE BONES AND JOINTS. CLINICAL STUDIES. By Joel E. Goldthwait, M. D., Charles F. Painter, M. D., and Robert B. Osgood, M. D., Boston: D. C. Heath & Co., Publishers, 1909.

Written by three of the foremost orthopedists of Boston (that Mecca of American orthopedia), this is a work which will naturally command the attention of anyone interested in the surgery of the bones and joints.

The authors have entitled the book "Clinical Studies," perhaps to disabuse the minds of those who might expect a "text-book" along the old lines, and they offer these studies primarily "to those practitioners of medicine to whom sufferers from joint-diseases usually make their first appeal." This does not mean that the book is elementary in its scope. It represents, on the contrary, a large part of the experiences, deductions, and also results of original investigations of three busy men handling annually a large amount of clinical material. But as the style of presentation is up to what we expect from Boston, this is a work which can be read from cover to cover by any medical man.

That it is up to date goes without saying. Thus for instance, are considered, among other subjects,—and chiefly in the light of the authors' own experience,—the opsonic diagnostic method; the immunizing vaccines; the bismuth-paste treatment of chronic, discharging abscess; and even the modern psychotherapeutic measures are adequately dealt with in their appropriate places, and their importance is not underestimated.

It is impossible to enumerate all of the excellencies of this interesting book. Nearly every page teems with them. The book should be read from the beginning, for a good deal of what is said later is based on what has gone before and because valuable points brought out in discussing one phase of a disease are often not repeated when the same disease is spoken of as affecting another anatomic location.

That the volume will be of great interest to those especially devoted to bone and joint diseases goes without saying. Of the various chapters, for studies, some attain a much greater degree of completeness than others, due in part, perhaps, to the triple authorship of the volume. Thus joint tuberculosis receives 250 pages of excellent and almost complete discussion while the other infectious arthritides get but 30 pages—just as excellent but not nearly so complete.

The chapter on infectious arthritis is written from a broad, general viewpoint; and to be emphasized is the attention the authors direct to the tonsil as the portal of entrance of many infections which eventually reach the articulations.

Especially interesting, and no doubt new to a great many physicians, are the chapters on the various types of rheumatic arthritis, the pelvic articulations, round or stoop shoulder, and villous arthritis, these being subjects which have been worked out largely through the original labors of one or more of the authors.

Especial mention must be made of the section devoted to tuberculosis of the bones and joints. It gives, in simple form, as complete a practical exposition as possible in the allotted space and advocates some principles of treatment, the Lorenz fixative ambulatory method in hip-disease, for instance, which have been long ago accepted and practiced abroad, but somewhat neglected in America.

The reason why the chapter on "Methods of Physical Examination in Joint Disease," one of the best in the book, should be included in the section devoted to tuberculosis rather than precede everything else contained in the volume, is not clear to the reviewer.

The authors are to be thanked for adding a few chapters regarding diseases often forgotten in diagnosing joint-diseases, as, for instance, aneurysm, tabes mesenterica, subdeltoid bursitis, and syphilis. A final chapter on the use of plaster-of-Paris will prove of practical interest to many.

Written by three men, the volume presents an exceptional uniformity of style. That the therapeutic test, so heartily and correctly condemned in the opening chapter, is unscientific none will deny, but we must know more of joint syphilis before we can afford to drop it entirely just now. This also seems to be the feeling of the authors who recommended it in another part of their volume.

Mechanically the book is a very adequate frame for the contained subject-matter. The type is large and easily readable, the paper good, and the cover and the binding as dignified and lasting as cloth can be. As usual, the x-ray pictures lose a part of their original beauty in reproduction, nor is the printing up-side-down of one or two of them more than a trivial mishap. It is difficult to understand the reason why so much space is devoted to large pictures instead of reducing the size of many and thus giving room for more of the authors' golden words.

As a whole the volume stands as a contribution of science to humanity. Its pages not only show a spirit of aiding the cripple, but also breathe patriotic and humanitarian desires to help the nation and the race. It will awaken an interest in bone and joint diseases that, so far, has been dormant in many. It is another solar-plexus blow to the diagnosis "rheumatism." It should be read by everyone who has treated, does now treat, or ever expects to treat a case of bone and joint disease or disability. We are confident of greeting a second edition shortly.

EMIL S. GEIST.

TUBERCULOSIS, A PREVENTABLE AND CURABLE DISEASE. By S. Adolph Knopf, Professor of Phthisiotherapy at the New York Post-graduate Medical School and Hospital. Moffat, Yard & Co., publishers.

This little volume has for its motto, "To combat tuberculosis successfully, requires the combined action of a wise government, well-trained physicians, and intelligent people."

One of the principal objects of the book is to be helpful to the patient affected with tuberculous disease, with no idea of replacing the physician, but simply to aid a sufferer by giving him such insight into his affliction as will convince him of the curability of the disease in the earlier stages, and the great possibility of improving his condition in the later stages.

The chapters and their subdivisions are very interesting. A partial list of them is given here:

1. What a tuberculous patient should know of his disease.

This takes in the definition, the discovery by Prof. Koch, the infectiousness of tuberculosis, the various means through which infections carry, the useless cough which many people acquire, and the general personal hygiene with its relation to rational dress, etc.

2. The duties of the people. How they should deal with tuberculous patients, and how to guard against infection.

This chapter discusses the milk proposition, sterilization and Pasteurization of milk, the care of bed linen, the care of rooms, and phthisiophobia.

3. The duties of the physician towards the patient, the family of the patient, the community he lives in, and other communities.

This chapter takes in the individual medication of the patient by cheerfulness, printed matter, preventive measures, when to send the patient away, the choice of climate, and the examination and the periodical re-examination of all members of the family; disinfection of the sick-room, and the treatment of the patient himself.

4. How the sanatorium treatment may be adapted to and carried out in the home of the consumptive.

This heading explains itself.

5. How sanitation and proper housing may help toward the prevention of tuberculosis.

This chapter deals with polluted air, not only in the cities, but in the homes, play-grounds, model tenement houses, methods of heating, the cleansing of garments.

6. The duties of marine, municipal health authorities.

This is an interesting chapter, for it deals with the smoke nuisance, the cleaning of streets, the sprinkling of streets, self-flushing cuspidors, dispensaries, the police power of health departments, exclusion from indoor work of tuberculous employees.

7. The duties of state and federal authorities in the combat of tuberculosis.

This chapter deals largely with the direction of sanitary state hospitals, township institutions, and various minor details. It also takes up President Taft's idea of the new public health bureau.

8. What employers of every kind can do to diminish tuberculosis among the men and women working for them.

This chapter includes the dangers of expectoration, the advantages of lectures to employees, telephone hygiene, cleaning of railroad cars, the farmer's duty in the prevention of tuberculosis of man and beast.

9. The duties of school teachers, doctors in general, and of the public press in the combating of tuberculosis.

An interesting chapter dealing with tuberculosis in the public schools, the necessity of play-grounds, swimming-tanks, respiratory exercises, the inspection of lunches, and the recognition by the teacher of a possible tuberculous child.

10. The duty of colleges, philanthropists, charitable individuals, and charitable organizations.

11. The duties of the people in the combat of tuberculosis.

This chapter deals with the various problems which should be more carefully studied, in order to prevent the communication of disease to others; it also refers to the number of anti-tuberculosis committees, societies and associations in the United States, and insurance against tuberculosis.

12. Prospect of ultimate eradication of tuberculosis.

The book contains 394 pages and is full of illustrations from actual photographs, showing the various ideas conveyed in each chapter.

This book is earnestly recommended to the school boards, that of Minneapolis in particular, for consideration and study, and it is a book that should be in every family, particularly where there is tuberculosis.



## REPORTS OF SOCIETIES

### WABASHA COUNTY SOCIETY

The forty-first annual meeting of the Wabasha County Medical Society was held at Wabasha, Thursday, July 8th. All members but two and several visiting physicians were in attendance. Three new members were elected.

At the business session the Society instructed its delegate to support the medical defense proposition in the next House of Delegates; and to favor the bill proposed by the Legislative Committee to revise the bill relating to the practice of medicine and surgery in the state. The Society, endorsed the action taken by the last House of Delegates in condemning commercialism in the medical profession and "compounding of fees;" and passed a resolution defining it as unprofessional in a member of this Society to affiliate or consult with physicians in the county ineligible to membership or not in good standing with the Society.

Papers were read as follow: The President's Address, "Treatment of Intracapsular Fracture of the Femoral Neck, and of Morbus Coxarius by the Maxwell-Ruth Method," by Dr. L. C. Ingram, Zumbro Falls; "Report of Attendance at the International Tuberculosis Congress at Washington, D. C.," by Dr. E. H. Bagley, Lake City; "A Method of Arriving at a Correct Diagnosis," by Dr. J. T. Asbury, Wabasha; "A Plea for the Neurasthenic," by Dr. W. T. Adams, Elgin.

Officers were elected as follows: President, Dr. H. T. McGuigan, Mazeppa; vice-president, Dr. J. F. Bond, Wabasha; secretary-treasurer, Dr. W. F. Wilson, Lake City; delegate, Dr. J. A. Slocumb, Plainview; alternate, Dr. J. P. Dougherty, Wabasha; censor (3 years), Dr. D. P. Dempsey, Kellogg.

After a vote of thanks to the Wabasha members for their splendid entertainment of the physicians in attendance, and their wives, the Society adjourned to meet at Millville next July.

W. F. WILSON, M. D., Secretary.

### SOUTHWESTERN MEDICAL SOCIETY

The summer meeting of the Society was held at Slayton on July 22d, with 19 members and 6 visiting physicians present. The medical defense bill was thoroughly discussed, and our delegate was instructed to support and vote for at the next meeting such plan of medical defense

as another year's study, and the experience of other state associations, may suggest.

The following papers were read and fully discussed: "Clinical Report of a Case of Lung Abscess and One of Complicated Organic Heart Disease, with Exhibitions of the Patients," by Dr. L. Sogge, Windom; "Medical and Other Notes on a Trip to Hawaii and the Orient," by Dr. Louise M. Gerber, Jasper; President's address, "The Doctor," by Dr. A. H. Brown, Pipestone; "Clinical Report of a Case of Typhoid Fever, with Unusual Complications," by Dr. H. A. Tomlinson, St. Peter; "Clinical Report of Two Cases of Puerperal Eclampsia," by Dr. L. A. Williams, Slayton; "Specimen of Green Urine, Passed by an Apparently Healthy Woman and Not Due to Drugs."

The meeting was a splendid one, the spirit of fraternal accord being always in evidence. The next meeting will be held in Windom in January.

EMIL KING, M. D., Secretary.

## NEWS ITEMS

Dr. W. F. Maertz, State University, '08, has located at New Prague.

Dr. Peter Dahl has moved from Grafton, N. D., to Park River, N. D.

Dr. Cleveland Frederick, a recent graduate, has located at Springfield.

Dr. John Atkinson has moved from Spencer, S. D., to Aberdeen, S. D.

Dr. J. W. Papez, a graduate of the State University, has located at Holloway.

Dr. James Christiansen, of Alden, is doing post-graduate work in Chicago.

Dr. P. S. Vistaunet, State University, '06, has moved from Badger to Halsted.

Dr. M. J. Shaughnessy, from the Boston City Hospital, has located in Wabasha.

Dr. Jens Olmstad has moved from Minneapolis to McIntosh, where he formerly practiced.

Dr. A. G. Schulze has moved from Carlton to Duluth, and has offices in the Lyceum Building.

It is reported that "Dr." John Till is having as big a practice in Germany as he had in Wisconsin.

Dr. O. C. Trace has moved from Little Falls to Maple Plain after practicing in Little Falls for twenty years.

Dr. D. Seeman, of Rockham, S. D., was married last month to Miss Maud Kennedy, of Columbia, S. D.

Dr. H. F. Goetsch, of Milwaukee, Wis., has formed a partnership with Dr. Stephen Fisher at Dickinson, N. D.

Dr. A. B. MacNab, of Beach, N. D., was married last month to Miss Genette A. Kingsbury, of Cassopolis, Mich.

Dr. H. M. Freeburg, of Watertown, S. D., was married last month to Miss Caddie L. Ludwig, of Minneapolis.

Dr. Fred J. Ghostly, of Minneapolis, has moved to Blackduck, and is on the staff of the M. & O. Hospital of that place.

The hospital association of Montevideo has purchased a beautiful site, and will soon build a commodious and modern building.

Dr. C. V. Cole, of Lake City, a graduate of the State University, '04, was married last month to Miss Anna Seely, of the same place.

Dr. Maurice D. Cooper, State University, '07, of Winnebago, was married last month to Miss Gertrude I. Schradi, of Minneapolis.

Dr. Allan Sather, of Willmar, was married last month to Miss Clara Ringoen, of Ridgway, Iowa. Dr. Sather will locate at Fosston.

Dr. W. H. Darling, formerly of St. Peter, now practicing in Minneapolis, was married last month in Vienna to Miss Girard of Boston.

The state medical associations of Oregon, Washington, Idaho, and the association of British Columbia held a joint meeting at Seattle last month.

Dr. O. J. Hagen, of Moorhead, is doing post-graduate work at Harvard Medical School. Dr. V. E. Verne, of Minneapolis, has charge of Dr. Hagen's practice.

Col. M. Maus, of Washington, D. C., has been appointed chief surgeon of the Department of Dakota, coming to Ft. Snelling to succeed Col. George Adair, retired.

We are glad to be able to announce that Dr. Theodore L. Hatch, of Owatonna, has completely recovered from his recent critical illness, and has resumed practice.

Dr. Robert S. McMurdy, of Minneapolis, celebrated his 85th birthday on July 17th. He has

been practicing sixty-seven years, and nearly forty years in Minneapolis.

Dr. George M. Sewall, a recent graduate of the State University, who began practice at Ogilvie, has located at Deerwood, and is associated with his brother, Dr. R. S. Sewall.

The State Board of Medical Examiners of South Dakota held its annual meeting last month, electing officers as follows: President, Dr. L. G. Hill, Watertown; vice-president, Dr. H. S. Graves, Hurley; secretary, Dr. F. W. Freyburg, Mitchell.

Mr. Moreau, the well-known optician of Minneapolis, has adopted the "daylight work" day. His employes in the manufacturing department work from 6:30 A. M. to 4:30 P. M. That's a trade of darkness for daylight, a good bargain for both sides.

Dr. D. L. Martin, who graduated in June from the Northwestern Medical School of Chicago, has charge of Dr. Butler's practice at Dell Rapids, S. D., during Dr. Butler's absence in Europe. Dr. Martin goes to the Cook County Hospital as interne in the fall.

Dr. Herbert O. Collins was elected superintendent of the Minneapolis City Hospital last week. Dr. Collins is a graduate of the University of New York City, class of '88, and has lived in Minneapolis only about eight months. He has had extensive experience in hospital work.

Dr. H. C. Cooney and wife, of Princeton, have been visiting eastern hospitals to study in the clinics and to get new ideas for their own hospital (the Northwestern) which is now in new and better quarters than ever before. A fraternal order (the Eastern Star) has a well furnished room in the hospital, and during the absence of Dr. and Mrs. Cooney their friends furnished a room handsomely as a compliment to the doctor and his wife.

Dr. Wesley D. Matchan, of Bismarck, N. D., died on July 21st at the age of 33, of pneumonia. Dr. Matchan graduated from the State University in 1899, and after spending a year in the City Hospital went to Bismarck where he soon became prominent in medical circles and soon enjoyed a large practice. It was his devotion to his work that broke him down. He was a member of the governor's staff and was head physician for the Northern Pacific at Bismarck. He was a brother of Dr. R. D. Matchan, of Minneapolis.

# PHYSICIANS LINCENSED AT THE JUNE EXAMINATIONS TO PRACTICE IN NORTH DAKOTA

## UPON EXAMINATION

Brown, W. W.....	Garrison
Brugman, F. A.....	Tagus
Bundy, T. O.....	Fargo
Campbell, T. R.....	McHenry
Culp, L. L.....	Fort Totten
Farmamian, G.....	Mott
Hamilton, E. E.....	Mott
Holland, W. H.....	Fisher
Joyce, T. M.....	Brinsmade
Olson, C.....	Berlin
Scheussler, A. W.....	Penn

## BY RECIPROCITY

Boyum, P. A.....	Manfred
Brigham, F. J.....	Coteau
Judge, T. A.....	Alice
Spilman, G. H.....	Garrison
Redmon, F. E.....	Mott
Verne, V.....	Moorhead, Minn.
Wilder, K. W.....	Eckelson

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

## PRACTICE FOR SALE

An ideal country location in Minnesota; business ranges from \$250 to \$500 a month; easily held by right man; no opposition; good prairie country; fine people; good pay. To a responsible man will sell for \$3,000 including real estate—\$1,000 cash and balance on time. Do not write unless able to buy. Address C. R. H., care of this office.

## OFFICE FOR RENT

A well-equipped office in the New Jersey Building, Duluth, is offered for a part of each day. Address Rooms 420 and 421 New Jersey Building, Duluth, Minn.

## PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

## FOR SALE

I wish to retire and will sell my practice for the price of my real estate (\$3,000), including my office outfit and some other personal effects. Good territory, schools, and churches. Two main lines of railroad nearby. Town nearby 1,000; German, Scandinavian, and American; three hours from Twin Cities. Good for \$2,500 cash, yearly, and can be greatly increased by an active man. Address J. Q., care of this office.

## FOR SALE VERY CHEAP

An up-to-date 12-inch x-ray coil and stand, including valve and interrupter. Guaranteed. Cash proposition. Address A. H. S., New Jersey Bldg., Duluth.

## PRACTICE FOR SALE

A fine location in the Park Region of Minnesota, less than 200 miles from the Twin Cities, town of 450. Good territory; good collections; will sell to responsible man for \$3,000, including a fine residence property. Reason for selling, am going west on account of health. Do not write unless able to buy. Address C. A., care of this office.

## HOSPITAL FOR RENT

A completely equipped and furnished hospital in town of 3,500. Good paying business for a man and wife; patronized by all local physicians. Present matron wishes to retire. Address C. M., care of this office.

## PART OF OFFICE FOR RENT

A physician is wanted to share the office with a dentist in the Donaldson Bldg., Minneapolis. Phones. T. S., 3063, or N. W., Nic. 1160.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists. Phones: N. W., East 9381; T.-S., 16449. Minneapolis, Minn.

*Physicians' Attention*.—Drug-stores on easy payments, etc. Drug-store positions in United States or Canada. F. V. Kniest, Omaha, Nebr.

Patients who show a progressive loss of vocal power should be examined most carefully for an intralaryngeal condition. An acute aphonia may be due to an inflammatory condition or paresis of one cord; alcoholism, syphilis, tuberculosis and malignant disease bring on a chronic condition. Two most important causes of chronic laryngitis are thickening due to an old inflammatory process and the presence of a small, hard, nodular tumor on one of the cords, e. g., fibroma.—American Journal of Surgery.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## A PLEA FOR THE SYSTEMATIC AND UNIVERSAL EXAMINATION OF SCHOOL CHILDREN'S EYES, EARS, NOSES, AND THROATS\*

BY FRANK ALLPORT, M. D.

CHICAGO, ILL.

In presenting a paper on the eyes and ears of school children the magnitude of the subject should first be considered in order to emphasize its importance.

There are in the United States about 20,000,000 public-school children, or about 20 per cent of the entire population. These children average 150 days in school each year.

There are nearly 500,000 public-school teachers in this country.

About \$850,000,000 are invested in public schools, and about \$440,000,000 are annually expended for keeping these schools in useful operation.

There are in the United States about 300,000 blind people, supported by the states at an annual expense of about \$15,000,000. Most of these people would not have become blind if their diseases had been detected early in life.

It has been recently ascertained in London that, whereas it costs only £4 or £5 per annum to support a normal child, it costs about £23 per annum to support a deaf child.

About 50,000 American children are annually removed from school on account of physical inability to continue at work. A large proportion of these children suffer from some eye or ear defects. About 8,000,000 school children suffer

from some eye defect, and about 8,000,000 from some ear, nose or throat defect. In other words, about 16,000,000 children, or 80 per cent of the entire public-school population, suffer from some eye, ear, nose, or throat defect, which more or less retards their school progress; and a vast majority of these diseases could be cured or relieved if detected and placed under proper medical supervision. Dr. F. J. Mann, of Poughkeepsie, Inspector of Schools, recently found that every truant in that city had some radical defect of the eye, ear, nose, or throat.

If the foregoing statements are true,—and I believe they are,—then the subject is one of great magnitude and one quite worthy of the careful consideration of sociologists, educators, school and health boards, physicians, parents, and lawmakers. The vast amounts of money invested in school properties and annual budgets, cannot be well expended unless the children are in a proper physical condition to receive presented instruction. Unless children receive and absorb presented instruction they do not become properly educated. Unless children are properly educated they do not become useful citizens, but they are apt to develop idle and criminal tendencies and become financial and moral charges upon the state. The logical conclusion, therefore, is, if it is deemed advisable to materially mitigate idleness and crime, and to increase the ranks of self-

\*Read at the meeting of the American School Hygiene Association.

respecting and self-supporting men and women, then educate them, and if physical defects hamper their educational progress then eliminate, as far as possible, such physical defects, and allow the children at least the physical possibility of absorbing the beneficial opportunities of our public schools. There is much to be said concerning the specific and intimate connection existing between a child's general health and his studies, but as my portion of this symposium refers only to the eyes and ears of school children, I shall be compelled to limit myself to this phase of the subject, remembering, however, that this topic is by no means restricted in its character, for, with the exception of mental capacity, nothing is so essential to the acquirement of an education as good sight and hearing. A child that cannot see well at a distance is debarred from participating in the important blackboard and other distant demonstrations which play an essential rôle in modern educational methods; a child that cannot study without headache or fatigue soon forms a great distaste for books and acquires habits of idleness, with all its entailed consequences, while a child whose vision is generally impaired by cataracts, corneal scars, intra-ocular diseases, etc., becomes almost a hopeless proposition so far as a decent education is concerned. The difficulty which a deaf child undergoes in the effort to acquire an education must be apparent to everyone, while a child with discharging and foul ears is not only in danger of death, but is an infective menace to the entire school. Children of this kind, with serious eye, ear, nose, or throat defects, find themselves at great disadvantage in their school. Owing to their physical infirmities they cannot easily take advantage of presented instruction, and, consequently, they fall behind their fellow students, are thought to be stupid, idle, or vicious, are punished for their retarded progress, become discouraged and lose interest in their work, become truants, form bad associations, and easily drop into pauperism and crime, and undoubtedly form the major portion of the inmates of reform-schools, jails, penitentiaries, and charitable institutions.

It must, therefore, be admitted that education is one of the strongest factors in the lessening of poverty and crime, and that to education we must largely look for the upbuilding and development of strong, resolute manhood and womanhood, which must ever be the hope and promise of the Nation's succeeding generations. Is it, then, asking too much of educators and law-

makers to see that the physical condition of children is such as to render easily possible the absorption of the educational offerings of our public schools, for without such physical capacity it must become difficult or impossible to uplift the child, mentally and morally, and to take advantage of the country's immense expenditures in the interest of education and, higher still, to take advantage of the great opportunity extended to our public schools, of turning out each year young men and young women well adapted and equipped for the great battle of life and for the general improvement and betterment of our Fatherland and its conditions?

Our public schools are a public trust, not in the offensive sense of the word, but they are a trust confided by the people to certain officers into whose hands are put the welfare of our schools and their pupils. These officers voluntarily assume their duties; they undertake to manage the schools in the best interests of the children, the people and the Nation. They require attendance and establish meeting-places where they stand in loco parentis and where the children pass the major portion of their waking-hours. They should, then, not be satisfied with the mere extending forth of knowledge to the young and budding mind, but should accompany it with all the solicitude and care extended to fortunate children by loving and watchful parents, for, it must be remembered, many children in our public schools are fatherless or motherless, or, Heaven knows, might better be, and they will receive all the love and kindness they are likely to know behind the portals of our public schools. I should not be misunderstood as criticizing our schools or of accusing their officers of neglect or carelessness; for such, believe me, is not the case. Enormous strides have been made along these and all other lines during the last few years, but much remains to be done, and it is to be hoped and believed that the same degree of energy and enthusiasm that has already inspired the accomplishment of so much good work in the past, will be the means of accomplishing in the future that work which must be the aim and ambition of all those having the best interests at heart of the children, the schools, and the Nation.

The systematic physical examination of pupils by medical school inspectors and the efficient co-operation of school nurses is one of the greatest advancements that have ever been made in the direction of improving the physical condition of school children; enormous benefit has resulted

therefrom. Their labors, however, can be greatly heightened by delegating to the school teachers themselves the practical examination of the eyes, ears, noses, and throats of the children. Fortunately, this is a field that can be efficiently covered by the teacher, for, while after the examination the teacher will not, and should not, even try to make a diagnosis, sufficient data will have been obtained to enable her or him to know that the child has passed either a satisfactory examination, or has some defect which shall be diagnosed and treated by the physician to whom the case becomes ultimately referred. This examination consists in the ascertaining of a few simple facts as follows:

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number XX line of the Snellen's test-types with either eye?
3. Do the eyes and head habitually grow heavy and painful after study?
4. Does the pupil appear to be "cross-eyed"?
5. Does the pupil complain of earache in either ear?
6. Does pus or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet, in a quiet room, with either ear?
8. Is the pupil frequently subject to "colds in the head" and discharges from the nose and throat?

9. Is the pupil an habitual "mouth-breather"?

If an affirmative answer is found to any of these questions the pupil should be given a printed card of warning to be handed to the parent, which should read as follows:

#### CARD OF WARNING TO PARENTS

After due consideration it is believed that your child has some eye, ear, nose, or throat disease for which your family physician or some specialist should be at once consulted. It is earnestly requested that this matter be not neglected.

It will be observed that these cards are not obligatory in their character, and that they leave the choice of a physician with the parent. If the matter is not attended to the teacher or the school nurse should take the matter persistently in hand and endeavor to persuade compliance with the plan. The examination should be made early in the school year, say, in September, in order to bring the idea to completion and watch the results before the end of the school year. To this end it is urged that a certain date be

set aside each year for these examinations, and that nothing shall be allowed to interfere with their performance. It is recommended that each teacher examine the pupils in her own room, not only because she is familiar with the children and their complaints, but because it subdivides the work, so that it does not become a strain upon any one person. The result can be handed to the principal, who should retain the reports for future references.

I advise that a certain early date in the fall be set aside for these examinations, and inasmuch as a school-room rarely contains more than forty pupils, and that each examination can be easily made in five minutes, an entire room can be examined in a few hours. In this way an entire city, no matter how large, can be easily finished in less than a day's time, and the benefits which must follow are bound to be enormous. The expense is very slight, as all that is necessary is the Snellen's test-types with teachers' instructions attached, together with the warning cards to parents and very simple record blanks. A city like Chicago, for instance, can be annually tested at an expense which should not exceed \$500 per annum, a truly insignificant amount when one considers the great benefit which must inevitably follow. Teachers do not need to feel their incapacity to make these tests, for the questions are of the simplest character, and yet when analyzed will be found to be so comprehensive in character as to detect at least 90 per cent of serious eye, ear, nose, or throat defects. Neither is it a tax on a teacher's time or patience, for the tests are perfectly easy to make, can be done in a few hours, and the great benefit which will follow, in transforming apparently stupid children who cannot see or hear well into ordinarily bright children, will amply repay the teacher for what little work she has done and, by such transformations, will inevitably and greatly lighten her future labors. This plan, which I proposed years ago, is now in quite general use throughout the United States, and has been endorsed by the American Medical Association, by most of the state medical societies, and boards of health and education, and is a law in Vermont, Connecticut, and Massachusetts. I give herewith the Vermont law, which is the best one that has yet been passed.

Section 1. The State Board of Health and the Superintendent of Education shall prepare, or cause to be prepared, suitable test-cards, blanks, record-books, and other needful appliances to be used in testing the sight and hearing of pupils in public schools, and



necessary instructions for their use; and the Superintendent of Education shall furnish the same free of expense to every school in the state. The superintendent, principal, or teacher in every school, during the month of September in each year, shall test the sight and hearing of all pupils under his charge, and keep a record of such examinations according to the instructions furnished, and shall notify in writing the parent or guardian of every pupil who shall be found to have any defect of vision or hearing, or diseases of eyes or ears, with a brief statement of such defect or disease, and shall make a written report of all such examinations to the Superintendent of Education, as he may require.

Sect. 2. The State Auditor is hereby directed to draw his order on the State Treasurer for such sums and at such times as the Superintendent of Education, with the approval of the State Board of Health, may require to carry out the provisions of this act. The total expenses under this act shall not exceed six hundred (\$600.00) dollars in any biennial term ending June 30.

Sect. 3. This act shall take effect July 1, 1905.

A similar law will probably be passed this winter in Illinois, Indiana, Ohio, Colorado, North Dakota, California, and other states. It *should* become a law in every state in the Union, for these examinations should be compulsory in

character, and every school child should participate in their benefits.

May I beg for the assistance of this Society and the profession of this state in securing the passage of this law at Springfield this winter? Senator Charles Billings has the matter in charge.

In conclusion, and bearing directly upon the subject, not only of a child's general health, but also of his ocular condition, I desire to protest against the too frequent intellectual forcing of children to satisfy the ambition of the child himself, his parent, or his teacher. This process becomes particularly objectionable when it occurs, as it frequently does, during the period of adolescence when the nervous system of the child is often taxed to its utmost and when his studies and indoor confinement should be reduced to a minimum. It is at this time that we frequently see not only generally broken-down children, but also children whose eyes are often in an extremely troublesome and sometimes dangerous condition; and it is at this time that extra care and solicitude must be maintained that the seeds of general and ocular invalidism be not planted.

## PHYSICIANS' INVESTMENTS

(A Series of Five Papers)

### BONDS AND MORTGAGES—SECOND PAPER

By M. W. MATTESON

Manager of the Bond Department of the Security Trust Company of St. Paul

ST. PAUL

The subject of investment, like that of medicine, is a very broad one, and, as I can but touch upon a few of the more important points, I shall try to make clear the adaptability of certain forms of investment to the requirements of the physician, and to point out why many of the professional men are unfortunate in their investments.

By investment I mean the employment of money in such a way that the security of the principal invested and the regularity of the income are the two main factors. Speculation involves the employment of money in such a way that the security of principal and the certainty of income are both hazarded for the sake of a possible increase in the income to be derived.

There are but two ways of making money: working for it and making it work for you. The

former we all understand; the latter is not so generally understood as shown by the fact that most professional men find it much easier to make money than to hold onto and properly safeguard it. As the physician's practice grows he gradually acquires a surplus, providing he attends to his collections, and then he realizes that the field of investment is a very wide one and that the inducements offered by many are very tempting to one wholly occupied along other lines of work and not accustomed to analysing the relative chances of success or failure in different classes of investment.

Now, why does the professional man so often fail to invest his surplus to the best advantage? It will be admitted that a large percentage of the profession do not invest wisely. It is due, not to lack of foresight nor lack of intelli-

gence on his part, but to lack of familiarity with a profession so different from his own. For the physician money-making is the direct result of successful endeavor in a line of work with which he is thoroughly familiar. The investment of money is a profession differing radically from his own and one with the principles of which he has had little time to become familiar. Suppose the banker were to attempt the practice of medicine with little previous preparation—it would not be difficult to foresee the outcome.

All investments embody in a degree four general qualities and you pay much or little for the investment according as these qualities are present or lacking. These are (1) safety of principal and interest, or the assurance of receiving both promptly when due; (2) rate of income realized on the investment; (3) saleability of the investment for cash under ordinary conditions; (4) prospect for an appreciation in value or an advance in the cash market value of your investment.

To invest one's surplus successfully these four qualities must, at all times, be kept in mind, and *the investment must be selected in accordance with the actual requirements*, which will vary with the individual. The fact is often lost sight of that a high degree of one of these qualities involves a correspondingly low degree in another, and it is not uncommon to find the investor paying for qualities that he does not require. For example, we sometimes see a man who wishes to make a permanent investment and who has no idea of reselling, and yet purchases securities which possess in a large degree the quality of ready saleability, such as first-grade municipal, railway or government bonds paying  $3\frac{1}{2}$  per cent or less. From his standpoint this is a waste of income, as the quality of ready marketability is obtained only at the sacrifice of the rate of interest. The market affords many investments of a similar nature and possessing ample security that yield a greater revenue and lack only the one quality of ready saleability. The financial institutions purchase the former because they may be called upon at any time to meet some emergency demanding an extraordinary amount of funds, and they must have securities that can be realized upon immediately. This quality is not needed to any such degree by the individual, and he can find ample security in the obligations of smaller municipalities and corporations paying from  $4\frac{1}{2}$  per cent to 6 per cent.

It is patent to all that to keep money tied up in bank accounts is a waste of income, so that

money is naturally put to work in other channels. The most common among these are real estate mortgages and municipal or industrial bonds. Many medical men also go into insurance as an investment, aside from the protection afforded, and I will attempt to analyse the relative merits of these three.

In general, there are two classes of investors among physicians: the one who has acquired a competence and has retired from active practice and is living on the income from his investments; the other who is still in active and remunerative practice and not dependent on the income from his investments.

In choosing investments the former should lay emphasis on the points of high security of principal and income, and a high rate of interest. His investments should be of a permanent nature, requiring little care or supervision and leaving him free to go or come as he chooses. He does not need the quality of ready saleability, as he should consider his investment permanent and look only to the income from his investments for his revenue. This combination is to be found in many municipal and industrial obligations which lack only the one quality, that of ready saleability, a quality not needed by one retired from active practice. The man in active practice is not dependent upon the income from his investments and can therefore afford to choose an investment offering a high yield and a strong prospect for a rise in the market value of his security, that is, a semispeculative profit over and above the interest received upon the investment. Securities of this nature are to be found in the obligations of some of our large corporations or trusts, in the obligations of certain railways, and in those of some foreign governments.

The ideal investment for the physician, I take it, is one combining absolute security of principal, certainty of income at a fairly high rate, reasonable prospect for rise in the value of the investment, and saleability for cash with as little trouble as possible.

To what extent may we consider life insurance an investment? Generally speaking, it satisfies one requirement, that is, the principal invested is unquestionably safe and the income regular providing the company is properly managed. But how about the other qualities,—high yield, prospect for rise in the value of the investment, and saleability for cash?

The yield from an insurance investment, it must be admitted, is very low, there is no chance for a rise in the value of the investment, and

in order to be sold it must be sold for about one-half the amount invested. In other words, life insurance cannot be considered in the light of an investment, as it possesses but one of the four qualities desired by the investor, while there are many investments obtainable that will combine three of these qualities. Insurance should be bought for protection only, and never as an investment.

Using the same standard and the same line of reasoning, how do real estate mortgages or municipal and railway bonds meet the requirements of the physician?

The chief advantage of the real estate mortgage lies in the fact that it yields a relatively higher income than any other form of investment affording the same security, and in this state is exempt from taxation. Its disadvantages, however, are by no means insignificant.

The safety in any real estate mortgage depends upon the margin of security in excess of the amount of the loan. Real estate values are constantly changing as the town builds toward or from the property loaned upon, and this point becomes a serious objection to this class of investments. If the property pledged increases in value the security increases, but there is no corresponding increase in the market value of the principal invested. On the other hand, if the value of the pledged property decreases, not only is the security proportionately lessened, but, if the decrease be great, the holder of the mortgage is sometimes forced to take the property, not infrequently resulting in a loss of part of the principal invested. In other words, you receive no direct benefit from an increase in the value of the property pledged, but you take all the risk in case of a drop in its value.

This is not true of active railway or industrial bonds, which are acted upon equally by changes in the value of the property pledged as security. In general, such securities advance with an increase in the value of the property, such gain going directly to the benefit of the owner of the bonds. For example, many railway bonds quoted ten years ago at 90 are today selling at par, due to the general upbuilding policy of the railways. The purchaser of such a bond has received a fair rate of interest on his investment and, in addition, can sell out his investment for over ten per cent more than it cost him. The failure of real estate mortgages to similarly respond to changes in value places the mortgage-holder at a great disadvantage.

Another feature of the mortgage investment

is its lack of saleability, the market being limited at all times, with almost no market in times of panic when the money may most be needed. Again, the mortgage investment requires attention to see that the property is not allowed to run down, that taxes are paid, insurance carried, etc., all of which are a bother and nuisance to the professional man, but must be attended to by him or entrusted to an agent. In case of default and the mortgage-holder has to take over the property considerable expense and delay are incurred in drawing papers, not to mention the year allowed the mortgagor in which to redeem during which your funds are tied up. These make work for the attorneys, and that may be one reason that attorneys as a class so generally recommend mortgage investments.

Again, real estate mortgages are usually for short periods of one to five years, requiring new papers at maturity and renewals at constantly lowering rates. On the other hand, bonds are obtainable running from one to 100 years, are even better secured than real estate mortgages, require no supervision or attention beyond removal of a coupon twice a year, and possess a wide market, hence they are more readily sold in hard times than any other form of security and yield within a fraction of one per cent as high an income as a first-class mortgage.

Bonds of large issue are prepared under the direction of the best legal talent available on account of the magnitude of the issue, while the real estate mortgage may have been prepared by any minor attorney. Unlike mortgages, bonds usually carry no "on or before" privilege, neither are they public documents for any one to inspect. Bonds form a strictly private investment, the same as if the investment were in bank notes.

The physician with a malpractice suit pending can make an immediate transfer of his investments in bonds without any one being the wiser and without the drawing of any papers whatever.

To sum up: The real estate mortgage provides a high yield of interest, usually ample security of principal, very limited market, in event you wish to sell, and no chance for appreciation in value. The well-selected bond provides very nearly the same yield as the mortgage, is more easily transferred, has a wider market, and is more readily sold than the mortgage, provides as great security as the mortgage, and possesses a reasonable chance for appreciation in value.

But here let me emphasize the words *well-selected bonds*, for not all bonds are good, any



more than are all mortgages secure. It is in your selection that the financial institution can assist you. Make your purchases through a trust company or bank of prominence and long standing that will sell you only such securities as it owns and considers a safe investment for its own funds. With the purchase of all mortgages or municipal bonds see that the written opinion of a competent attorney affirming the validity of the obligation is furnished.

With these precautions you will secure a safe investment and one that should never cause you worry.

Many professional men buy speculative stocks with the idea that they are investing, not clearly understanding the difference between stocks and bonds. As an owner of stock in a corporation you are a partner in the business and possibly receive dividends on your stock if the company

is prosperous. If you are an owner of its bonds you are a creditor of the company, secured by a mortgage on the plant. The interest on your bonds must be paid when due, while payment of dividends on the stock is optional with the management of the company, and you cannot compel them to pay anything on your stock investment unless it is their wish to do so.

In conclusion, let me state that the mortgage provides a good form of investment for certain requirements, but for the physician it should constitute only a small portion of his investments.

On the whole, as a dealer in both bonds and mortgages I believe that first-class bonds are available to the physician which will take care of the major portion of his investment requirements to better advantage than real estate mortgages or any other form of investment.

## INDICATIONS FOR THE REMOVAL OF THE MIDDLE TURBINATE\*

By J. G. PARSONS, M. D.

SIoux FALLS, S. D.

The importance of nasal surgery is beginning to be appreciated by the profession, and is receiving some of the attention which it deserves. The theory of the role of intranasal disease in the causation of general disease is quite well understood by the profession as a whole. They realize that obstruction of the air passages interfering with proper nasal breathing has a decided influence in the causation of respiratory disease, deformities of the palate and chest, and in exposing the throat to infection which must occur when mouth-breathing is established.

It is also plain that intranasal pressure will set up reflex nervous disturbances, and plays no small part in the causation of asthma.

It is possible to make a diagnosis of nasal obstruction without any other examination than inspection. Mouth-breathing tells the tale. In some of the conditions with which this paper will deal, however, a proper examination and diagnosis cannot be made without the aid of the head-mirror and nasal speculum.

I want to digress right here for a moment to

make a plea for the more general use of the head-mirror. I believe the greatest reproach that rests on the medical profession is that of our laxity in making examinations and the guesswork in our diagnoses. We all realize this, and all can profit by that part of the general confession that "we have left undone those things we ought to have done," and, incidentally and because of leaving undone those things we ought to have done, "we have done those things we ought not to have done." To use our own terms, in place of clerical ones, we often make mistakes in treatment because we have failed to make proper diagnoses. No man will deny that the greatest of all means of gathering information is with the eye. The greatest of all methods of examination is inspection, whether it be made with the naked eye, unaided by instruments, or with speculum or microscope. In making examinations let us therefore use vision first, touch next, and hearing last. I would therefore again urge the use of the head-mirror and nasal speculum. I have observed that in examining the nose very frequently the light is thrown only into the lower part of the nasal cav-

\*Read before the Sioux Valley Medical Association at Sioux City, Iowa, January 20, 1909.

ity, so that all that can be seen are the lower turbinal, the nasal septum, and possibly polypi, if they are large enough to hang down that far. In making an examination of the nose after inspecting the lower part, the patient's head should be tilted back so that the upper part of the cavity can be seen. In this manner we can get a view of the middle turbinal and the upper part of the nasal septum, together with such growths, discharges, and deformities as may be abnormally present. It will be frequently noted that while the lower part of the nasal cavity may be comparatively free from obstruction, so that there is good nasal respiration, the upper part in the region of the middle turbinal is decidedly abnormal. Often, under these conditions, the information that there is a serious intranasal condition present comes as a surprise to the patient, who has always supposed his nose to be normal.

Just a few words with reference to the anatomy of the middle turbinal region. The middle turbinate is properly a projection of the ethmoid, hanging between the ethmoid cells, which are in relation to the orbit, and the nasal septum. It is important as a landmark, for beneath its lower surface drain the openings of the anterior ethmoid cells, the antrum of Highmore, and the frontal sinus. To the upper side and to the posterior drain the openings of the posterior ethmoid cells and the sphenoid sinus. This region is richly supplied with blood-vessels from the sphenopalatine and the ethmoidal branches of the ophthalmic. Besides the olfactory nerve supply there are distributed to this region branches of the sphenopalatine and the nasal branch of the fifth. This blood and nerve supply affords an excellent opportunity for the operation of vasomotor reflexes. Irritation of the branches from the sphenopalatine ganglion sets up, through the Vidian, a sympathetic stimulus, which is immediately registered by vasodilatation in the region of the irritation. This, in turn, causing engorgement of the erectile bodies of the turbinal, makes pressure on the nerve supply originally irritated. Here we have established a vicious circle. Out of this reflex may develop irritation of the different branches of the fifth (more especially the ophthalmic), the cervical, and the pneumogastric nerves. Thus we may have developed, from purely nasal origin, neuralgias about the head and face, congestion of the ophthalmic apparatus, and irritation of the lower respiratory tract. Venous congestion within the orbit due to engorgement of the ethmoidal vessels, which flow into the ophthalmic, may also

result. The lymphatics in the upper nasal region drain into the deep cervical chain, but it has been shown that there is a communication of lymph spaces between these lymphatics and the subarachnoid space, thus making possible meningeal infection of nasal origin. (Fig. 1.)

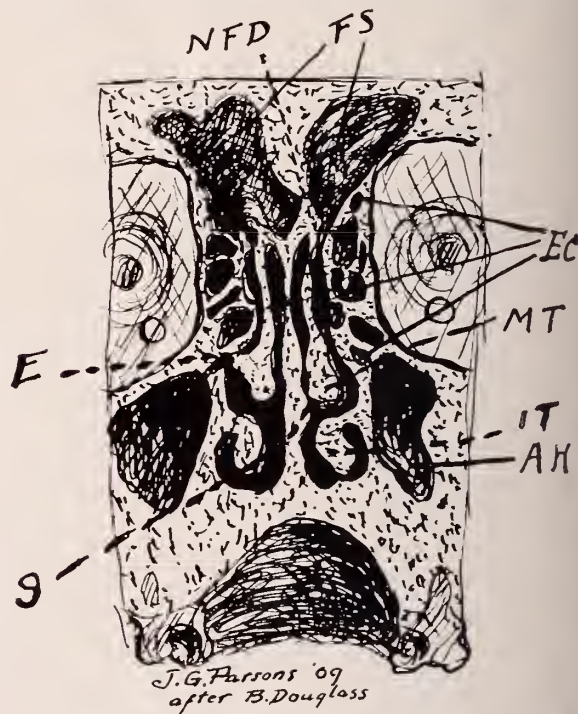


Fig. 1. FS, frontal sinus. NFD, nasofrontal duct. EC, ethmoid cells. MT, middle turbinate. IT, inferior turbinate. A. H., antrum. S, point of contact between middle turbinal and septum. E, contact between middle turbinal and lateral wall damming back drainage from ethmoid and frontal cells above. O, orbit.

Chronic enlargement of the middle turbinal from varying causes will be productive of certain mechanical results, which are important clinically, as follows: pressure on the nerve supply, affecting the vicious circle previously alluded to; pressure on the return flow of blood, further mechanically increasing congestion and thus affecting the vicious circle; pressure causing lymph stasis, which will be felt in the subarachnoid space; obstruction to the drainage of the sphenoid, anterior and posterior ethmoid cells, the frontal sinus, and the antrum of Highmore, and this obstruction favors the development of infections of these sinuses. When markedly enlarged, especially to the extent of filling in the space between the lateral and septal walls of the nasal cavity, the turbinal causes sufficient obstruction of the air-channel to interfere with nasal breathing. At the same time, wherever there is a point of contact with the septum, the nasal secretions collect and stagnate, favoring

bacterial and chemical decomposition, which further adds to the irritation.

Dessication of retained secretions or of discharges from adjacent cells and sinuses results in crust-formation, frequently associated with a fetid odor, resulting from putrefactive changes. Associated with chronic infections of the ethmoid labyrinth is a state of edema of the middle turbinal, which develops into polypi, which extra enlargement adds to the severity of those conditions dependent upon the mechanical effects of enlargement.

Perhaps the most common of all conditions calling for removal of the middle turbinal, and the one most frequently overlooked, is that of stasis of the venous and lymphatic circulation and neuralgia, without active infection of the accessory sinuses. (Fig. 2.) It is altogether prob-

ciated with refractive error. By the way of illustration I quote from my records:

Mr. K., aged 23, stenographer, consulted me four years ago about his eyes, presenting what appeared to be a typical case of eye-strain. Corrected under scopolamine by + .50 D., Sph. ( ) + .50 Cyl., ax. 90 each eye. He wore lenses with considerable comfort, but still complained of headaches on using his eyes hard. I went over his refraction several times in the effort to discover possible mistake, but found the refraction the same. Upon making inquiry about nasal symptoms I found that he took cold easily, which aggravated his headaches, and that he had a sensation of something wedged in between his eyes.

Examination of the nose showed enlarged middle turbinals in contact with the septum, which did not shrink much on the application of cocaine-adrenalin. After middle turbinectomy the symptoms cleared up entirely, and he seems to be capable of unlimited eye and mental work without discomfort, and incidentally states that his general health has improved.

Just such cases as this furnish a good nidus for infection of the accessory sinuses. Under conditions of irritation, which cause engorgement of the erectile tissue of the turbinal, sufficient extra swelling occurs to occlude the openings of the sinuses. When a sinus is thus sealed up, absorption of the oxygen in the contained air by the circulation creates a partial vacuum within the sinus cavity, followed by vascular engorgement and severe pain. Patients who complain of pain of this character on taking cold, even if there is no suppuration in the sinuses, are candidates for middle turbinectomy. The prophylactic value of the operation in such cases is apparent, the free drainage thus established preventing more serious results in the shape of suppuration within the sinus cavity.

Suppuration may easily follow a catarrhal sinusitis, the retained normal secretions affording a good culture-medium for germs that may gain entrance by continuity of tissue, blood, or lymphatic circulation. With this condition to deal with, removal of the whole or part of the turbinal to establish drainage is indicated, if contracting the tissues with adrenalin does not avail. This procedure will frequently render unnecessary further more radical interference.

Referring again to ocular disturbances, it should be remembered that, aside from the reflexes dependent upon nervous connection, the orbit and its contents are often affected by engorgement of the branches of the ophthalmic

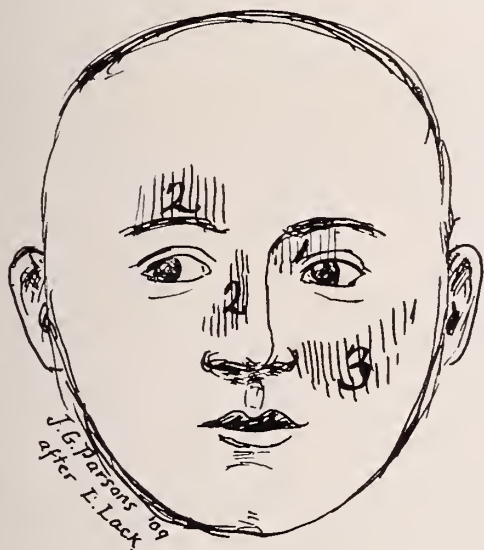


Fig. 2. Pain areas. 1, under eyebrow, frontal sinus. 2, region of middle turbinal. 3, antrum.

able that seventy-five per cent of the chronic frontal headaches are dependent upon ocular disturbance, more especially refractive errors, and that of the remaining twenty-five per cent, twenty are caused by intranasal disease in the region of the middle turbinal. It is therefore wise to examine the upper nasal chambers in all such cases. The patient complains of a dull, persistent headache, a sense of fullness about the eyes and at the root of the nose. There may be at times more severe pain, but usually not unless the patient has a cold, when added congestion would make greater pressure on the nerve-supply. There is frequently a disinclination to mental work and rapid tiring of the eyes. This symptom is frequently puzzling when asso-



vein, which receives drainage from the veins in the region of the middle turbinal. Thus we may have a congestion of the eye dependent upon intranasal conditions.

Also bearing in mind the anatomy of the ethmoid we may appreciate how easy a matter it is for suppuration in the ethmoid cells, dammed back by an enlarged middle turbinal, to break through and cause orbital abscess. To illustrate, I refer to a case in an old lady whom I was called to see by the family physician, who was of the opinion that her right eye ought be enucleated at once. She had had an attack of facial erysipelas recently, following which she had had severe pain in the eye, which began to protrude markedly. Approach within hailing distance of the patient gave greeting to the olfactories of a sickening odor from her breath. Examination of the nose showed a very large middle turbinal, covered with pus and crusts. A diagnosis of suppurative ethmoiditis was made. After removing the turbinal and curetting the ethmoid cells a counter-opening into the orbit was made. This satisfactorily drained the orbit, and the eye was saved.

Please note that this patient had had facial erysipelas. I learned that she had had "catarrh" for years, and the other members of the family informed me that her breath was always foul. These facts point to another condition calling for middle turbinectomy, namely, atrophic rhinitis. There are certain forms of this disease, which, as has been shown by Grünwald and by Casselberry, are due to ethmoidal suppuration. In such cases removal of the turbinal to promote drainage of the infected focus is indicated, and in many instances has resulted in great improvement where formerly they were considered incurable and hopeless. There can be no doubt of the fact that this class of cases when the infection is streptococcic, may carry the seeds of erysipelas about for years, and when conditions of lowered vitality are favorable, infection may enter an abrasion in the skin about the nose.

Probably the most frequent condition of intranasal disturbance for which patients present themselves, with the knowledge that something is wrong with the nose, is polypus. When these growths are large enough to be recognized by the patient the diagnosis is easy, but they frequently escape observation. Reflex coughs, neuralgias, headaches, and obstructed breathing should put the practitioner on guard, and suggest the use of the head-mirror and nasal speculum. An operation for the removal of polypi

is usually incomplete without the resection of at least a portion of the middle turbinal, from which polyps usually hang.

These tumors in most cases are the result of an underlying osteitis and develop in the edematous soft tissues surrounding the bone. The snare-operation is frequently followed by recurrence, so it is good surgery to get at the cause and remove as much of the turbinal as may be necessary to get rid of the osteitic focus.

Such marked enlargements accompanied by the additional obstruction of the polypi attached to them have frequently much to do with the cause of asthma and hay fever. (Fig. 3.)

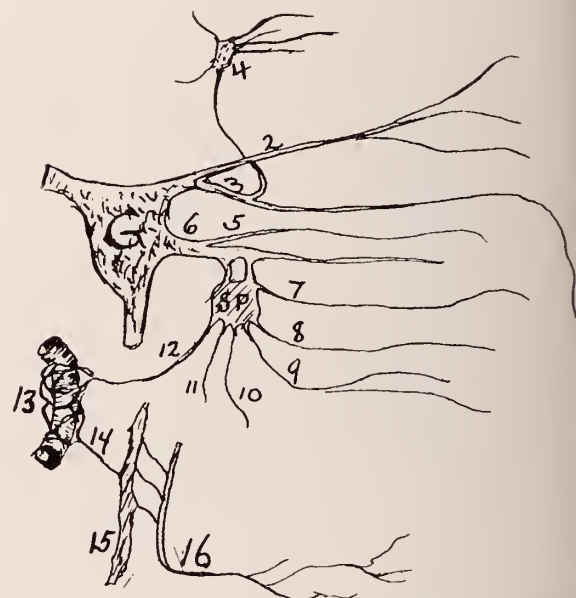


Fig. 3. diagram of nasal connections of fifth nerve. G, Gasserian ganglion. SP, sphenopalatine ganglion. 1, ophthalmic division. 2, frontal branch. 3, nasal, with branch to 4, lenticular ganglion and ciliary nerves. 5, orbital branch of 6, superior maxillary division. 7, superior nasal. 8, nasopalatine. 9, anterior palatine. 10, external palatine. 11, post-palatine. 12, Vidian, communicating with carotid plexus. 13, 14, branch from carotid plexus to sympathetic, 15, which is connected with pneumogastric, 16.

The pathologic mechanism is not hard to discover. We have to deal with blood and lymph stasis, the vicious circle of vasomotor irritation through the sphenopalatine ganglion, and an additional reflex in the shape of an irritation of the pneumogastric. Besides the reflex irritation of the pneumogastric there is also a direct irritation from the unheated, unfiltered, and unmoistened air which is taken in constantly by the mouth-breather whose nose is filled with hypertrophic turbinals and polypi. The following typical case will illustrate:

Miss G., aged 38, deaf mute, employed at the State School for Deaf Mutes in Sioux Falls, had chronic cough of years standing and fre-

quent asthmatic attacks. Poorly nourished; slept very poorly, being unable to lie flat. Partial mouth-breather. Referred by Dr. Klaveness, physician to the school.

Examination showed marked hypertrophy and polypi, ethmoidal involvement, and, as discovered later, sphenoidal involvement. Removal of turbinal and curettage of ethmoid and sphenoid cells made a revolution in the patient's physical condition. She sleeps well, is free from asthmatic attacks, has taken on flesh, and thinks she

has a joke on her people who sent her west from Pennsylvania to die.

I believe there are many cases of the types described in this paper that come and go under our treatment for different troubles that might be relieved if we but bore in mind the importance of "seeing things."

"Finally, my brethren, if ye have head-mirrors and nasal specula, I beseech ye to use the same, lest haply having eyes ye see not."

## AN ADVANCE IN ANESTHETIC TECHNIC, AS PRACTICED AT THE SISTERS HOSPITAL AT HOT SPRINGS\*

By W. J. McROBERTS, M. D.

HOT SPRINGS, S. D.

The subject of anesthesia and anesthetics has been threshed and re-threshed, only occasionally very reluctantly giving up its kernel of truth or added fact, and that always from the viewpoint of the surgeon, whose mind is so occupied with his operative work, his technic, and solicitude for results, that he has neither time nor opportunity to note the transitory changes taking place in his anesthetized patient, to draw competent conclusions, or to suggest newer or improved methods.

Recent British medical journals are plethoric with articles condemning the practice of permitting untrained medical graduates to administer anesthetics, and are pleading for a corps of trained professional anesthetists. Our own medical press is awakening the profession on this matter, and is urgently asking for more recognition of this most important and hitherto neglected subject in the curriculum of our medical colleges. From the viewpoint of the anesthetist of experience, because of his rarity, very little on the subject appears in the columns of the medical press. Whenever an inquiry is made on the subject, the question is invariably put to the surgeon, who, for the reasons before mentioned, cannot give an authoritative answer.

The surgeon who performs the operation is always named, but whoever hears of the anesthetist? When you stop to consider the matter, and in the interest of the patient, is it not the anesthetist who takes the life of the patient in his hands to care for and guide him through

the most dangerous of ordeals to which the patient, for the purpose of prolonging his usefulness to his family and the community, submits himself? Some medical authorities and a portion of our medical press do hold that it is quasi-criminal in the surgeon to call upon his brother, his druggist friend, or a nurse in training, to administer an anesthetic, asserting that the surgeon who follows this procedure is unnecessarily jeopardizing the life of his patient. Because of his accuracy in surgical diagnosis, his skillful touch, and his scientific technic, the patient's life is in very much less danger from the operation, as performed by the modern surgeon, than it is from the anesthetic as administered by an untrained anesthetist using slovenly and obsolete methods.

In administering anesthetics almost daily for a period covering nearly three years, the writer, from a series of observations, has obtained a degree of information on the subject not to be found in many of the text-books, and impossible for the surgeon to acquire in the course of his work.

In the operating-room of the Sisters Hospital at Hot Springs, S. D., we have developed a new method and a technic radically different from that in use elsewhere, of immeasurable value to the patient, and of demonstrated worth to the operating-surgeon. The steps leading to the development and perfecting of our method of anesthesia, I will not take the time of the Society to relate. Many patients, especially those having submitted to an operation, or having in any manner been associated with major opera-

\*Read before the Black Hills Medical Society at Deadwood, S. D., March 4, 1909.

tions, through friend or otherwise, have a great dread of the anesthesia and its sequelæ, nausea and vomiting. Unless the case is urgent the patient is given the usual preparation for operative procedure, rest, thorough evacuation of the bowels, and withdrawal of food for from twelve to eighteen hours before going on the operating-table. Frequently the case is urgent, the patient arrives on a night train, and the operation must be proceeded with in the morning. In such cases as much as possible in the way of preparation is done. It is customary for the operating surgeon, Dr. F. E. Walker, to order the patient given, hypodermatically, an hour before the time appointed for the operation, a full HMC tablet. At the appointed time the patient is brought to the operating-room, and the pulse and pupils are noted and recorded, and also the moment of beginning the anesthetic.

A word about our first mask: It was of the Allis type and dimensions, improvised from sulphite fiber covered with zinc-oxide plaster, and had the Allis face-piece of rubber, a floor of wire on which is placed some layers of gauze. At its narrow end is inserted an electric light-socket, with an extension cord to the electric-light current. Within the mask is placed a 16-candle incandescent globe covered with several layers of gauze, the top of the mask being covered with dentist's rubber-dam tissue, in which is cut an opening about the size of a silver quarter.

We are now ready to proceed, and invariably we begin the anesthesia with chloroform. The current is turned on with the mask about three inches from the patient's face. The drop method is used and continued until the patient acknowledges sleepiness, which is usually in from three to five minutes; then ether is substituted for the chloroform. The ether can is not opened in the usual manner; it is merely punctured with the point of a needle, and from this comparatively infinitesimal aperture the ether is forced out by the heat of the hand, and sprayed on the gauze over the light, whose heat so rapidly volatilizes the ether that, in from three to seven minutes more, we have operative anesthesia, without any struggling, sense of suffocation, or hypersecretion of saliva or bronchial mucus. The anesthesia proceeds very quietly, the pulse and pupils being under constant observation, and their rate and condition being recorded every five to seven minutes. Any departure from the normal anesthetic condition is also noted, recorded, and its cause elicited. Once the operation is under way, it is unnecessary to renew the ether oftener than at intervals of one and one-half to three minutes, and then in a definitely measured

quantity. From the small aperture in the ether can is measured the quantity that can issue in ten seconds, which is ascertained to be from 30 to 50 minims, depending upon the size of the pin-point used in making the puncture. Spraying the ether for a space of ten seconds, at the intervals mentioned, suffices to continue the anesthesia, hence the number of renewals recorded, multiplied by the known quantity issuing in ten seconds, gives approximately the quantity of ether used. The signal for the renewal of the ether is a slight excursion of the larynx. This reflex we have observed manifests itself before the return of the corneal reflexes. It becomes occasionally necessary to reduce the heat within the mask, owing to the dryness of the mouth and throat of the patient. This is accomplished by shutting off the electric current for a few moments and cooling with the ether.

We find that it requires much less of the anesthetic to produce and maintain a satisfactory anesthesia in a blonde, slightly more in the brunette, the greatest quantity being demanded by the dark-skin, black-haired patient. Weight is also a factor, and is usually taken into consideration.

A rapid acceleration or slowing of the pulse-rate is a signal for stimulation. The removal of the mask and the use of sterile normal saline solution in the abdominal cavity, we find give quicker and more satisfactory results than does the hypodermic of strychnine, as ordinarily used. The result of this procedure is in evidence in less than a minute in the deepened respiration and the return to equilibrium of the pulse-rate and in the absorption of a proportion of the anesthetic from the blood.

In the weak and debilitated, and also in elderly patients, the flooding of the abdominal cavity with sterile normal saline solution before proceeding with the operation, conduces, we find, to a better and safer anesthesia. We believe that this is the only hospital where this innovation is carried out, and that it is original here, having been adopted at the suggestion of the writer as a result of the observation of its favorable effect in a series of cases.

The advantages of our new method of anesthesia are largely in favor of the further safety and comfort of the patient:

1. In the lessened amount of the anesthetic used we have safety, consuming approximately only one-fourth to one-third of the quantity demanded by the abandoned method.

2. In the absence of the danger of ether pneumonia, due to the chilling of the lung tissue



in prolonged operations by the cold ether vapor, not one case occurring in over four hundred anesthetics by this method.

3. In the absence of kidney complications because of the very small quantity of anesthetic to be eliminated through this channel.

4. In the almost total absence of the dreaded post-operative nausea and vomiting.

5. In the total absence of a hypersecretion of saliva and bronchial mucus, attributable to the use of the HMC tablet, aided by the electricity-heated anesthetic.

6. In the placidity of mind, the ease and

rapidity with which the patients go to sleep, and the absence of the old so-called stage of anesthetic excitement, this being due primarily to the heated anesthetic and, secondarily, to the use of the HMC compound.

7. In that the surgeon can operate to better advantage in being conscious of the almost absolute safety of the method, and being aware that, since his patient will not be super-saturated with the anesthetic, there will, therefore, be no danger of secondary hemorrhage, ever present in the straining and vomiting caused by an anesthetic.

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## A CASE OF FROST-BITE AND ITS TREATMENT\*

By A. KUHLMANN, M. D.

MELROSE, MINN.

H. M., strong and robust, 28 years old, who had been celebrating at a saloon-opening, started for home at 12 o'clock, midnight, on the third day of December. That night the thermometer had registered 7° below zero. He fell asleep on the road and was picked up in the morning at 7 o'clock in an unconscious condition with frozen extremities. He was rubbed with snow and regained consciousness after a few hours. The rubbing of snow was kept up for six hours by the sympathetic farmers. His legs were frozen hard half way up to the knees, and his hands up above the wrists. As he was a man without means, he was left in the house of a farmer for another day, when he was brought to me for treatment.

The legs were swollen to twice the natural size up to the knees, and were blistered and oozing. The feet and hands were blue and cold and were covered with blebs containing coagulated serous fluid. He had no sensation in the hands and feet. They were apparently dead and lost. His ears looked like oozing gelatinous tumors pasted on each side of his head. His temperature was 102° and the pulse 103. Some infection and inflammation had evidently taken place from the unskilled treatment by the farmers.

I began to cleanse the extremities from the mixture of gunpowder and lard, which had been freely smeared over the frozen parts. The blebs were opened, and the sloughing skin and tissue removed, and the parts irrigated with a warm

bichloride solution, 1-5,000. The operation of cleaning the extremities occupied four hours of busy work. The frozen surface was powdered with zinc stearate, and bandaged loosely.

The upper reddened, swollen legs were treated with a weak warm bichloride application to produce hyperemia and draw out the inflammation. A tablespoonful of mag. sulph. was given to favor elimination and  $\frac{1}{4}$  gr. of morphine was administered, hypodermatically, to relieve pain. The warm applications on the legs were kept up all night. The next day there was so much sloughing that I worked on him from 9 A. M. to 1 P. M., removing the sloughing nails and dead tissue. The next morning the swelling had subsided considerably, and the circulation became more apparent. His temperature had dropped to 100° and the pulse to 80.

He was dressed twice a day for two weeks, consuming from one to two hours each time. In the morning after cleaning and irrigating with boric acid solution the frozen surface was dusted freely with zinc stearate powder. I put a loose veil of sterile gauze around and had the extremities suspended and elevated for two special reasons: to relieve pressure and to give access for air.

At night, after cleaning and irrigating, the extremities were well covered with sterile gauze surrounded with sterile cotton and very loosely bandaged. The open treatment, having the surface well powdered with zinc stearate, with a veil, elevation, and relieving the affected parts as much as possible from pressure by some suit-

\*Read before the Stearns-Benton County Medical Society, March 23, 1909.

able apparatus, slings, etc., proved by far the best. There was not so much sloughing and pus-formation, but a crusting, drying process with a clean serous oozing at certain places and no exuberant granulation tissue.

Because he had his four extremities involved it could not be kept up at night, for the sake of rest and comfort, as also for fear of an infection from the bedclothes. To my surprise I found every day that some apparent dead, lost parts would resume circulation and repair. After four weeks' treatment, encouraging repair by keeping it clean and removing the sloughing tissue, seven fingers and seven toes were partly amputated under cocaine anesthesia. Nothing was amputated high enough to secure a flap in order to save all the stump possible.

In conclusion, I wish to say we should not

be too hasty in amputating. Even if there is some necrosis of the bone, by removing the necrosed parts of a bone with a bone-forceps, curetting, cleaning, and patience, it has a tendency to heal, which was the case with his thumbs and one index finger, which, after three months patient treatment, had perfectly healed over, whereas in the first two weeks they seemed to be lost. This was also the case with his feet, where the sloughing had gone down to some of the tarsal bones, showing up black, but after patiently treating it for three and one-half months he had the full use of his feet.

Although it took considerable patience and care, I am glad I preserved this man's extremities to such an extent that he will be able to earn his living by the use of his hands and feet.

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## UNDESCENDED TESTICLE COMPLICATED WITH APPENDICITIS: REPORT OF A CASE

By CARL J. HOLMAN, M. D.

MANKATO, MINN.

Master R., aged 15, a fairly well nourished lad, had suffered from several attacks of acute illness characterized by pain under the region of the right undescended testicle. The left testicle was of normal size and was normal in position.

Examination of the canal revealed a tender, enlarged body about the size of a hazel-nut. The last acute illness had been more severe than the earlier attacks and was characterized by pain in the abdomen, nausea and vomiting, and elevation of temperature and pulse. He was attended by the family physician, Dr. H. Neill, of Sibley, Iowa, and it was thought best by him to have the condition removed by surgical methods as soon as the acute symptoms subsided. He was referred to Dr. G. R. Curran for operation, and to him I am indebted for the courtesy of allowing me to report the case.

Under ether anesthesia on December 27, 1908, at Immanuel Hospital, Mankato, an incision was made in the right inguinal region as for operation for the radical cure of inguinal hernia, extending from a little below the external inguinal ring upward and outward for about three inches and following the line of the inguinal canal. Severing the skin, the two layers of subcutaneous

fascia, the aponeurosis of the external oblique muscle, and then the cremasteric and transversalis fascia, the peritoneal pouch enclosing the testicle was exposed. A pocket in the scrotal sac was made, and the veins accompanying the cord were ligated, just as in the operation for varicocele, only the two ends were not tied together or approximated, but the ends were left separate to allow for elongation of the cord. The testicle was then fixed in the scrotal pouch, and the operation was completed, just as for the radical cure of herma.

When the vas and the vessels have been separated the cord is lengthened quite materially, and it is not difficult to deposit the testicle into the scrotum.

Feeling positive of the diagnosis of appendicitis, an incision, "the Battle," or right rectus, was made over the region of the appendix and it was removed. It showed evidence of several attacks—one rather recent; and it was thick and long. Both wounds were closed by the usual methods.

Two weeks later the young man returned to his home, with his testicle in the scrotum, and the recovery was satisfactory.

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## A STUDY OF URINARY ACIDITY AND ITS RELATIONS

Dr. Henry R. Harrower, of Chicago, in a reprint from the Medical Record of June 5, 1909, calls attention again to the necessary and closer study of the acidity of the urine, and he calls attention to the fact, as many other writers have done, that the average practitioner does not call for a twenty-four-hour specimen, but is usually satisfied to examine a morning specimen, and to determine the presence of acidity and its degree with ordinary litmus paper. This, Dr. Harrower believes, is a very inadequate means of testing urine, and does not in any way show the relative amount of acidity. He believes, further, that the failure to recognize acidity, and the failure to recognize and determine the quantity of urine eliminated, are responsible for a tardy diagnosis in diabetes and various forms of Bright's disease.

Dr. Benedict has called attention to what he calls the "acid unit." This is determined by the relation of the acidity of the whole twenty-four-hour specimen, thus: 1 c. c. of urine with an

acidity of 1° or 1 c. c. of urine exactly neutralized by 1 c. c. of decinormal sodium hydrate solution is equivalent to 100 acid units. Dr. Benedict believes that the average urine is from one-quarter to one-half the equivalent of the decinormal strength, and that the normal acid elimination in twenty-four hours should be about 40,000 acid units.

It is well known that the urine is usually intensely acid in rheumatic conditions, as well as in acute fevers, due, in all probability, to the increased manufacture of the acids in the body tissue, and, of course, the usual decreased amount of fluid secreted by the kidneys.

In a series of over 250 analyses, the average acidity was 60°, the lowest being 10°, and the highest 274°. Many of these individuals were passing urine with an acidity of 300 to 500 per cent of the normal, and with an acid unit index of 100,000 to 200,000 per day,—very much above the normal amount.

There is, evidently, from these findings a very distinct association between highly acid urine and auto-intoxication, due to putrefaction of intestinal contents, shown by the relation of indicanuria and high acidity; that in diabetes, an excess of acid is the rule, and that this condition of high acidity is very frequently associated with albumin and casts in the urine. The result is that a condition of an over-acidity of the urine means a crippling of the kidney substance, and it usually means that the elimination of urea is below the normal.

The suggestion made by Dr. Harrower, and others who have written on these suggestions, are worthy of more careful attention, and it is not inconsistent, nor need the suggestion be considered elementary, when physicians are directed to these simple means of determining over-acidity. In fact, this impression cannot be too strongly made, nor can one urge too often the necessity of more careful urinary analysis.

It is suggested that it would be a wise plan for every doctor to frequently read up the subject of urinary analysis, and refresh his mind as to the various methods by which the presence of acidity in the urine is determined.

## MEDICAL EDUCATION THROUGH THE LAY PRESS

The public generally are woefully ignorant concerning medical matters, and it is impossible for any physician, or company of physicians, to educate all the people by personal effort. The great medical societies recognize this, and are



preparing for some advanced work in this direction, that is, the education of the people through the lay press. The best way to attain this end is to have a medical editor connected with the daily papers who may censor or prepare educational medical articles that the public can appreciate and understand, and profit by.

The American Medical Association is preparing for this sort of educational work, and much has already been accomplished. Many of the newspapers abstract from medical journals articles which they believe will be of interest to the public, particularly in regard to epidemic diseases, preventable diseases, tuberculosis, sexual hygiene, and, above all, instruction in sanitary and hygienic methods which should appeal to every public-spirited citizen. Among these papers are the Boston Transcript, which devotes two or three columns weekly to advanced scientific research, and, in a recent issue, it describes epidemic cerebrospinal meningitis and the Flexner serum treatment. The article was rather an exhaustive one, and perhaps in a measure too technical for the average reader, but it is a step in the right direction and shows what is being done in the study of diseases, the possibilities of ascertaining the origin and source of communicable diseases, their prevention, and their treatment, not with the idea that the layman can apply the treatment or do or prevent the work himself, but that he may understand more definitely what the physician is trying to do for the benefit of the public at large.

Another instance of medical information which has been promulgated through the press is that of infantile palsy, epidemics of which have been discovered in various parts of the country, both east and west. The discussion of such things in the daily press, unless prepared or supervised by medical men, is not always reliable. The average reporter is not skilled enough to use the proper terms, and it is therefore very essential that all articles of this nature should be passed upon by medical men before they are printed.

In the recent epidemic of infantile paralysis, or poliomyelitis, which has been reported from St. Paul, there was much that was sensational, but a good deal that was instructive and educational. The unfortunate part of many of these publications is that they alarm the people unnecessarily, and lead them to suppose that this form of disease is very prevalent and apt to occur at any time. In New York and Pennsylvania, the epidemics of infantile palsy which occurred

there were very carefully investigated, and a report of the cases by the Health Commissioner has been made public. The conclusions reached by the Pennsylvania report were very instructive, and they do not differ from the reports in other states, even in our own state or in Wisconsin.

The disease is most apt to appear in some locality, but usually in the late summer and fall. The epidemic differs from the sporadic form in that the stages of severity are different in the epidemics. As yet, no satisfactory explanation has been found for the appearance of the disease. The personal and medical history has no bearing on the occurrence of the disease. The transmission of the disease from one to another cannot be explained, and no palsy distinctive of infantile paralysis has yet been discovered. Water, milk, or other media of this kind seemingly do not transmit it. Municipal and personal hygiene do not apparently have anything to do with it. The period of incubation varies from seven to ten days, and yet no one is able to ascertain how it is possible for the disease to be transmitted from one to another. It is evidently one of those epidemic types that come from undiscoverable causes, and disappear as quickly as they come.

Fortunately, it is very rarely fatal, but its results are usually lasting, even though the paralysis is very mild in form.

The newspaper accounts of these epidemics are not only helpful to the public, but are helpful to the physician. Each is on the lookout for possible communicable diseases, and is less inclined to treat the small, initiative chain of symptoms with indifference.

If one or two cases of infantile paralysis have occurred in a locality, the physician is ready to suspect a sudden illness accompanied by a rise in temperature and a period of malaise, or even a convulsion, and take proper precautionary measures. He will withhold his diagnosis for two or three days until the symptoms have been sufficiently evident to enable him to make a diagnosis. The lesion in anterior poliomyelitis is so characteristic and so readily localized that there need be no mistake when a paralysis of a group of muscles of one extremity occurs after a brief and apparently insignificant lameness.

Unfortunately, there is no known prevention for the disease, but it has been thought best to isolate all of these cases, for fear that they may in some way communicate the disease to others. This is a wise and just precautionary measure,

and perhaps it may save others from like suffering.

The people will have read enough of infantile palsy by this time to know that when it appears and leaves its mark by a paralysis of muscles, there is no specific remedy that can be applied immediately, and the number of cases that wander about the streets in after years with the remaining paralysis, should be convincing enough to the average layman to show him that the lesion has been a distinctive one.

The various remedies which have been suggested may be considered practically worthless, and the only rational form of treatment is that which protects the paralyzed limb from undergoing further deterioration. Something, perhaps, can be done in the early stages, and during the period of growth and development, to prevent needless deformities.

The treatment in the early stages, that is, during the acute febrile stage, should be eliminative, as in other febrile conditions. Free catharsis, free elimination by the skin, absolute rest, and protection from malpositions of the limb, are the essential features. After the child has recovered, and the paralysis is in evidence, the same protective precautions should be employed, artificially or by such orthopedic applications as may be needed in the individual cases. But experience shows that a disorganized gray cell in the anterior horns of the spinal cord is not capable of restoration; consequently, all fake methods and unreasonable measures should be discountenanced. Even the advocates of electricity have been obliged to admit that it is impossible to galvanize or faradize a destroyed nerve-cell, or to restore paralyzed muscles supplied by that particular group of cells. Gentle massage and an effort to maintain correct positions, natural or artificial, furnish the only hope.

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## REPORTS OF SOCIETIES

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### CAMP RELEASE DISTRICT SOCIETY

The Society met at Dawson on July 22d with twelve members present. Dr. P. H. Mee, of Gaylord, read a paper on "Shall We Dispense?" and Dr. W. A. Lumley, of Renville, read one on "In Memoriam."

The antituberculosis exhibit of the State Board of Health was at Dawson at this time. It was intended to have Dr. H. M. Bracken deliver an address on "Sanitation and Public Health"

at an evening session, but, unfortunately, Dr. Bracken could not attend.

Dr. Geo. H. Walker, of Fairfax, made application for membership.

The Legislative Committee's proposed amendment to laws relating to the practice of medicine was approved.

The next meeting will be held in Minneapolis and the following subjects will be discussed: "Cystitis," and "What Can We Do to Increase Interest In Our Society?"

R. D. ZIMBECK, M. D., Secretary.

### CLAY-BECKER SOCIETY

The Society met at Detroit July 26th with nine members present. As this was a midsummer outing meeting no papers were read.

The proposed bill to regulate the practice of medicine and surgery was approved.

E. R. BARTON, M. D. Secretary.

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## NEWS ITEMS

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Dr. Frank R. Hansen, of Lakefield, died last month.

Dr. J. H. Myers, of Denver, Colo., has decided to locate at Rapid City, S. D.

Dr. Monahan has begun work on his new hospital building at International Falls.

The Black Hills Medical Society will hold their September meeting in Hot Springs.

Drs. Ratte and Robinson, of Rapid City, S. D., are opening a ten-bed hospital at that place.

Dr. A. H. Kellar, of Sioux Falls, S. D., is spending his vacation in Hot Springs, S. D.

Dr. G. H. Holt, who has been practicing in Bismarck, N. D., has moved to Jamestown, N. D.

Dr. J. C. Willis, of Marsland, S. D., is refitting a residence property for hospital purposes.

Dr. George E. Parsons, of Elk River, was married last month to Miss Jessie Helen Horn, of St. Paul.

Dr. A. M. Brandt, of Bismarck, N. D., is home from a course of post-graduate work at Johns Hopkins.

The contract has been let for an addition and other improvements to the N. P. Hospital building at Brainerd.

Dr. R. V. Williams, of Rushford, has gone to Europe for special study. He will spend several months in Vienna.

Dr. M. J. Shaughnessy, a Harvard graduate, '07, has located at Wabasha. He spent a year in the Boston City Hospital.

Dr. A. J. Knight has moved from Belle Fourche, S. D., to Hulett, in the same state. Dr. Knight is a graduate of Jefferson.

Dr. A. M. Griffin, of Rapid City, S. D., has accepted an army post in the Philippines and will sail next month from San Francisco.

Dr. W. R. Patterson, of Eagle Bend, has purchased the practice of Dr. Fred Gramenz, of Menahga. Dr. Gramenz will take up special work.

Dr. H. T. Ground has resigned from the staff of the St. Peter State Hospital and will locate in the northern part of the state for general practice.

Dr. A. Oftedahl, of Bisbee, N. D., has moved to Halstad, Minn. He has just returned from New York where he has been doing post-graduate work.

Dr. M. D. Cooper, of Winnebago City, has bought the practice of Dr. H. J. Forbes, of the same place. Dr. Forbes will move to Los Angeles, Calif.

Dr. O. K. Winberg, of Lake Park, has sold his practice to Dr. C. J. Bloom, a graduate of the State University, class of '08. Dr. Winberg will go to Montana.

Dr. Fred B. Coleman, State University '09, has formed a partnership with Dr. W. H. Phillips, of Jordan, under the firm name of Drs. Phillips & Coleman.

Dr. Donald D. Guthrie, who has been connected with St. Mary's Hospital at Rochester for the past three years, has gone to Wilkesbarre, Pa., for general practice.

Dr. V. E. Varne, who has been attending to the practice of Dr. O. J. Hagen, of Moorhead, during the latter's absence for post-graduate work, has become a partner of Dr. Hagen.

Dr. F. C. Wheat, of Marshall, has moved to Minneapolis and formed a partnership with Dr. Borom, under the firm name of Drs. Borom & Wheat, with offices at 131 South 4th St.

Dr. Charles F. Warner, of Mankato, died last month at the age of 77. Dr. Warner came to

Mankato in 1869, and practiced there until his death.

Dr. E. E. Boyer, of Minneapolis, who has been for some time associated with Dr. W. J. Byrnes, is now confining his work to surgery and gynecology, with offices at 301 and 302 Masonic Temple.

The Idaho State Medical Association elected the following officers at its annual meeting held last month: President, Dr. J. L. Stewart, Boise; vice-president, Dr. Geo. H. Coulthard, Idaho Falls; secretary-treasurer, Dr. E. E. Maxey, Boise.

The new hospital at Montevideo will cost about \$25,000 and will accommodate 25 or 30 patients and the nurses. Work will be begun upon the building at once. Dr. C. E. Rogers, of Montevideo, is secretary of the hospital association.

The Rush graduates located in Washington met last month at Seattle and formed the Rush Alumni Association with the following officers: President, Dr. S. J. Holmes; secretary, Dr. Frederick Bentley; treasurer, Dr. Edward P. Frick, all of Seattle.

At the annual meeting of the Oregon State Medical Association, held last month, the following officers were elected: President, Dr. E. A. Pierce, Portland; vice-president, Dr. R. G. McDaniel, Baker City; secretary, Dr. Wm. House, Portland; treasurer, Dr. Edna D. Timms, Portland.

The Washington State Medical Association held its annual meeting last month and elected the following officers: President, Dr. W. D. Kirkpatrick, Bellingham; vice-president, Dr. John M. Semple, Medical Lake; secretary, Dr. C. H. Thompson, Seattle; treasurer, Dr. L. L. Love, Tacoma.

The joint meeting of the Pacific Northwest medical societies at Seattle last month was a great success; and the outcome of it is a permanent organization of the physicians of British Columbia, Oregon, Idaho and Washington, to be known as the Northwest District Medical Association.

The Mudcura Sanitarium opened at Shakopee last month with twenty patients. The mineral waters of Shakopee are said to be equal for the cure of rheumatism to any other waters in this country. The Sanitarium is under the charge of Dr. H. P. Fischer, a member of the State Medical Association.



Dr. Ignatius Donnelly died in Minneapolis on the last day of July. Dr. Donnelly practiced for a number of years in St. Paul. Several years ago he went to Butte, Montana, in hope that a change of climate would benefit his health. Two years ago he returned to St. Paul, but soon had to give up practice, when he came to Minneapolis to reside with his sister. Dr. Donnelly was secretary of the Minnesota State Medical Association for a number of years, and was a very popular man in the profession.

# PHYSICIANS LICENSED AT THE JUNE, 1909, EXAMINATION TO PRACTICE IN MINNESOTA

## UPON EXAMINATION

Baker, Earnest L.....U. of Minn., 1909  
Balfour, Donald C.....U. of Toronto, 1906  
Black, Wm.....U. of Minn., 1909  
Blakely, Clement C.....U. of Minn., 1909  
Blegen, Hallward M.....U. of Minn., 1909  
Booren, Clifton A.....U. of Minn., 1909  
Brooks, Chas. N.....U. of Minn., 1909  
Campbell, Albert A.....U. of Minn., 1909  
Coleman, Fred B.....U. of Minn., 1909  
Crammer, Richard R.....Jefferson, 1909  
Delmore, John L.....U. of Minn., 1909  
Diessner, Henry D.....Hahnemann, Pa., 1909  
Doolittle, Leroy Edson.....U. of Minn., 1909  
Drake, Chas. R.....U. of Minn., 1909  
Earl, Geo. Arthur.....U. of Minn., 1909  
Eggen, Olaf K.....Jefferson, 1909  
Fiksdal, Mads J.....U. of Minn., 1909  
Foshager, Henry.....U. of Minn., 1909  
Frederich, Cleveland F.....Northwestern, 1909  
Ghostley, Frederick J.....Hamline, 1909  
Ghostley, Mary C.....Hamline, 1909  
Gilkey, Seth E.....Hamline, 1909  
Glyer, Richard T.....U. of Minn., 1909  
Griebenow, Frederick.....U. of Minn., 1909  
Haverstock, Arthur D.....Hamline, 1909  
Healy, Raymond T.....U. of Minn., 1909  
Holcomb, Joel T.....Jefferson, 1909  
Hunt, Roscoe C.....Harvard, 1909  
Johnson, Sehner M.....U. of Minn., 1909  
Kaufhold, Geo. F.....Hamline, 1909  
Kurz, John W.....U. of Minn., 1909  
Larson, Martin.....U. of Minn., 1909  
Liebold, Herbert H.....Jefferson, 1909  
Lepak, Francis J.....Northwestern, 1909  
McIntyre, Philip S.....U. of Minn., 1909  
McKeown, Eugene G.....U. of Minn., 1909  
Maxeiner, Stanley R.....U. of Minn., 1909  
Murphy, Ignatius J.....U. of Minn., 1909

Ostergren, Edward W.....U. of Minn., 1909  
Oyen, Martin.....U. of Minn., 1909  
Paulsen, Edward L.....U. of Minn., 1909  
Perry, Clarence G.....U. of Minn., 1909  
Peterson, Henry F.....U. of Minn., 1909  
Pond, Casper W.....Northwestern, 1909  
Pond, Samuel B.....U. of Minn., 1907  
Rebman, Emory C.....Northwestern, 1909  
Schmidt, Henry A.....U. of Minn., 1909  
Sewall, Geo. M.....Hamline, 1909  
Shaughnessy, Michael Jas.....Harvard, 1907  
Skemp, Frank S.....Hamline, 1909  
Smith, Ray Edward.....Hamline, 1908  
Sundt, Mathias.....U. of Minn., 1909  
Sutton, Chas. S.....U. of Minn., 1909  
Stern, Monte Alex.....J. A. Creighton, 1908  
Trowbridge, E. H.....U. of Minn., 1909  
Vadheim, Alfred L.....Hamline, 1909  
Van Deboget, Lewis.....Hamline, 1909  
Zander, Chas. H.....U. of Minn., 1909  
Zimmermann, Harry B.....  
.....Columbia and P. & S., N. Y., 1909

## BY RECIPROCITY

Allen, Cora Smeltzer.....U. of Iowa, 1904  
Benoit, Frank T.....U. of Minn., 1905  
Gulde, Wm. Chas.....Drake, 1907  
Gumber, Jos B.....Creighton, 1909  
McCabe, Walter F.....Columbia P. & S., 1905  
Pope, Wm. H.....Med. Chirurg., Pa., 1907  
Sather, Allen.....U. of Iowa, 1908  
Thorne, Olive.....Miami, 1906

[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

## PRACTICE FOR SALE

An ideal country location in Minnesota; business ranges from \$250 to \$500 a month; easily held by right man; no opposition; good prairie country; fine people; good pay. To a responsible man will sell for \$3,000 including real estate—\$1,000 cash and balance on time. Do not write unless able to buy. Address C. R. H., care of this office.

## PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

## PART OF OFFICE FOR RENT

A physician is wanted to share the office with a dentist in the Donaldson Bldg., Minneapolis. Phones: T. S., 3063, or N. W., Nic. 1160.

## PHYSICIAN WANTED

Wanted at once, a physician to locate in a city of 1,650 in south-central Minnesota. Farming community. Thickly settled. One who can speak Bohemian, or Bohemian and German preferred. Population, Bohemians, Germans, Irish, Americans, and Polish. Office rooms over drug-store free. Centrally located. Business established twenty years. Address B. M., care of this office.

## LOCATION WANTED

A German physician desires to locate in a German settlement, preferably in a wooded district. Address H. C., care of this office.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists. Phones: N. W., East 9381; T.-S., 16449. Minneapolis, Minn.

*Physicians' Attention.*—Drug-stores on easy payments, etc. Drug-store positions in United States or Canada. F. V. Kniest, Omaha, Nebr.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH  
OF MINNESOTA FOR THE MONTH OF MAY, 1909

## REPORTED FROM STATE INSTITUTIONS FOR MONTH OF MAY, 1909

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Pergus Falls, Hospital for Insane...	7	2			1											
Rochester, Hospital for Insane.....	15	2													1	
St. Peter, Hospital for Insane.....	6	2														
Anoka, Asylum.....	3	2														
Hastings, Asylum.....																
Faribault, School for Deaf.....																
Faribault, School for Blind.....																
Faribault, School for Feeble Minded.....																
Owatonna, School for Dependents.....	6	2	1	1												
Stillwater, State Prison.....																
St. Cloud, State Reformatory.....																
Red Wing, State Training School.....																
Minneapolis, Soldiers' Home.....																
Totals..	33	10	1	2									1		1	

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF MAY, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	3	3													
Anoka.....	3,769	4,053	3	4		1											
Austin.....	5,474	6,489	4	2	1												
Barnesville.....	1,326	1,566	2	2													
Bemidji.....	2,183	3,800	5	2		1											
Blue Earth.....	2,900	2,364	2	2													
Brainerd.....	7,524	8,1	12	2		1											
Chaska.....	2,165	2,085	*	*													
Chatfield.....	1,426	1,300	*	*													
Cloquet.....	3,074	6,117	5	1		1											
Crookston.....	5,359	6,794	7	1					3					1			
Detroit.....	2,060	2,149	1	1		1											
Duluth.....	52,968	64,942	88	7		12		3	4	2		1	1	3	2	3	
E. Grand Forks.....	2,077	2,487	2	*													
Ely.....	3,712	4,045	3	1		1										2	
Eveleth.....	2,752	5,332	5	1		3											
Faribault.....	7,868	8,279	9	3		2											
Fairmont.....	3,440	2,955	1	*													
Fergus Falls.....	6,072	6,692	7	*	1												
Granite Falls.....	1,214	1,340	*	*													
Hastings.....	3,811	3,810	*	*													
Hutchinson.....	2,485	2,489	3	*								1				1	
Jordan.....	1,270	1,311	*	*													
Lake City.....	2,744	2,877	3	2													
Litchfield.....	2,280	2,415	1	*													
Little Falls.....	5,774	5,856	1	*													
Luverne.....	2,223	2,272	2	*											1		
Le Sueur.....	1,937	1,842	2	1													
Madison.....	1,336	1,604	2	*						2							
Mankato.....	10,559	10,996	12	1												1	
Marshall.....	2,088	2,243	5	1		1											
Melrose.....	1,768	2,151	*	*													
Minneapolis.....	202,718	261,974	258	22	10	26		4	3				3	3	4	18	2
Montgomery.....	979	1,281	1	1													
Montevideo.....	2,146	2,595	4	*		3											
Moorhead.....	3,730	4,794	10	1													
Morris.....	1,934	2,003	2	*		1											
New Prague.....	1,228	1,419	3	1													
New Ulm.....	5,403	5,720	3	*		1											
Northfield.....	3,210	3,438	8	1												1	
Ortonville.....	1,247	1,612	*	*													
Owatonna.....	5,561	5,651	3	*		2											
Pipestone.....	2,536	2,885	*	*													
Red Lake Falls.....	1,885	1,797	1	*												1	
Red Wing.....	7,525	8,149	6	1										1			
Redwood Falls.....	1,661	1,806	1	*													
Renville.....	1,075	1,229	0	*													
Rochester.....	6,843	7,233	28	1	1	2	1					2				8	
Rushford.....	1,100	1,133	1	*													
St. Charles.....	1,304	1,238	2	*													
St. Cloud.....	8,663	9,422	10	*		3										1	
St. James.....	2,607	2,320	1	*													
St. Paul.....	163,632	197,323	237	30	2	19		10	15				2	5	6	6	2
St. Peter.....	4,302	4,514	2	*		1	1										
Sauk Centre.....	2,220	2,463	3	*													
Shakopee.....	2,046	2,069	3	*													
Sleepy Eye.....	2,046	2,312	2	*													
So. St. Paul.....	2,322	3,458	1	*													
Stillwater.....	12,318	12,435	9	*		1			1							2	
Thief River Falls.....	1,819	3,502	3	*												1	
Tower.....	1,366	1,340	0	*													
Tracy.....	1,911	2,015	0	*													
Virginia.....	2,962	6,056	11	*		4											
Wabasha.....	2,528	2,619	3	*													
Warren.....	1,276	1,640	3	*												1	
Waseca.....	3,103	2,838	4	*													
Waterville.....	1,260	1,383	1	*													
West St. Paul.....	1,830	2,100	1	*													
Willmar.....	3,409	4,040	2	*												1	
Windom.....	1,944	1,884	1	*													
Winona.....	19,714	20,334	23	1		3										1	
Worthington.....	2,386	2,276	2	*													

\*No report received. Health officer not doing his duty.



## REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF MAY, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	1														
Adrian.....	1,253	1,184	1			1											
Aitkin.....	1,719	1,896	2													1	
Akeley.....		1,636	1														
Alexandria.....	2,681	3,051	2														
Appleton.....	1,184	1,321	2					1									
Belle Plaine.....	1,121	1,301	0														
Benson.....	1,525	1,766	1														
Breckenridge.....	1,282	1,850	2														
Buffalo.....	1,040	1,124	1													1	
Caledonia.....	1,175	1,405	2														
Canby.....	1,100	1,505	2														
Cannon Falls.....	1,239	1,460	1														
Cass Lake.....	546	1,062	1														
Chisholm.....		4,231	7			1	1					1				1	1
Clayton.....	962	1,056	4														
Delano.....	967	1,023	1														
Fosston.....	864	1,000	1														
Frazee.....	1,000	1,146	0														
Glencoe.....	1,780	1,805	1			1											
Glenwood.....	1,116	1,718	1														
Graceville.....	856	1,032	1														
Grand Rapids.....	1,428	2,055	1														
Hallock.....	805	1,014	1														
Hibbing.....	2,481	6,566	13			6	1					1					
Jackson.....	1,756	1,776	1														
Janesville.....	1,254	1,205	1													1	
Kasson.....	1,112	1,049	1														
Kenyon.....	1,202	1,252	1														
Lake Crystal.....	1,215	1,231	3														
Lanesboro.....	1,102	1,041	0														
Long Prairie.....	1,385	1,256	1														
Madelia.....	1,272	1,290	2			1											
Milaca.....	1,204	1,319	0														
Mountain Lake.....	959	1,063	1													1	
North Mankato.....	939	1,129	1			1											
North St. Paul.....	1,110	1,400	0														
Olivia.....	970	1,019	0														
Osakis.....	917	1,056	1														
Park Rapids.....	1,313	1,719	4		1											1	
Pelican Rapids.....	1,033	1,095	1														
Perham.....	1,182	1,366	0														
Pine City.....	993	1,092	0														
Plainview.....	1,038	1,140	1														
Preston.....	1,278	1,320	1			1											
Princeton.....	1,319	1,704	1														
Rush City.....	987	1,041	0														
Rushford.....	1,062	1,040	0														
St. Louis Park.....	1,325	1,491	2			2											
Sandstone.....	1,189	1,539	1														
Sauk Rapids.....	1,391	1,552	0														
Scanlon.....		1,122	1			1											
South Stillwater.....	1,422	1,572	0														
Springfield.....	1,511	1,546	2						1								
Spring Valley.....	1,770	1,573	1														
Staples.....	1,504	2,163	0														
Two Harbors.....	3,278	4,402	4		1	1								1	1		
Wadena.....	1,520	1,868	2		1												
Wells.....	2,017	1,814	1														
West Minneapolis.....	2,250	2,530	0														
Wheaton.....	1,132	1,346	2														
White Bear Lake.....	1,283	1,724	5		2											1	
Winnebago City.....	1,816	1,553	0														
Winthrop.....	813	1,031	1														
Zumbrota.....	1,119	1,129	1														
State Institutions.....			33	10	1	2										1	
Other parts of State.....	1,012,328	1,085,886	616	60	10	60	8	7	13		1	9	3	2	13	19	4
Total for State.....	1,751,395	1,979,658	1571	169	27	170	12	25	40	4	1	15	10	17	28	75	10

133 Still births and premature births, not included in above totals.

\*No report received. Health officer not doing his duty.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## THE EPIDEMIOLOGY OF ANTERIOR POLIOMYELITIS\*

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Outbreaks of this disease have occurred in Minnesota as follows:

1908—Northfield, Barnum, Hibbing;

1909—Winona, Lewiston, Twin Cities, and the country surrounding Finlayson, Murdock and Waseca, besides one case in North St. Paul.

Enquiries in these localities have usually elicited rumors or even definite reports of other cases in neighboring districts, but the available time has not so far permitted the tracing of these. It would appear that this year a large number of small scattered outbreaks have existed in this state, not always seen by physicians and not always reported when seen. This is a reportable disease. Although the data available do not conclusively point to the advantage of rigid quarantine, the epidemiological study of the disease is of such importance, especially in view of its recent widespread development in the state, that reporting of cases becomes an imperative duty of the physician. It is very necessary that clinical, epidemiological and pathological study be made as thorough in every case as possible, and the State Board of Health will gladly undertake autopsy work at every opportunity wherever it may occur throughout the state, since it is absolutely essential that this disease, apparently established here, should receive early and minute investigation for use in the years to come.

*Definition.*—An acute affection of the central nervous system, the essential and most conclusive clinical feature of which is rapidly developed

motor paralysis of various groups of the voluntary muscles, generally accompanied by acute febrile disturbances.

*Clinical Picture.*—Fox (Ann. Rep. Penna. State Board of Health, 1907) gives the following résumé of the clinical features of the Pennsylvania outbreak of 1907:

The child will go to bed in its usual health, but during the night may be noted as somewhat restless. In the morning nothing abnormal may be observed, but during the day the child will complain of being tired. It is quiet, perhaps somnolent, when undisturbed, but nervous and peevish upon the slightest molestation; the pupils may be dilated, and the conjunctiva glassy and sensitive to light at this time. The tongue is probably not yet coated, but soon becomes so, and the papillæ of the anterior half are red and prominent. This tongue I have called a typical strawberry tongue. At night the child will have fever, sleep fitfully, and awaken several times, peevish or crying. Vomiting or convulsions are occasionally encountered at the onset. During this time constipation exists, and often forty-eight hours elapse without a bowel movement. This constipation may be unaffected until an enema is employed to assist after the exhibition of a reliable cathartic. This speaks for a paresis of the bowel. In a few instances, diarrhea is reported, but whether this were true looseness or due to the constipation, I was unable to decide from the histories. Urine not infrequently is retained, and voided perhaps not oftener than twice daily, or even less. The bladder is usually full, however, and later urine is freer; therefore, the paresis or atony of the bladder appears early and is transient. The reflexes of the foot, knee, abdomen, and eye are not disturbed at this time. On the third day, there may be an improvement and the fever, which has been moderate, averaging 102° F., will begin to subside. During the day before the fever

subsides, or when it is at its height, general pains and aches are noted, especially referable to the head, neck, shoulders, and legs, not often the thighs. With the decline of fever, this symptom improves only to reappear a day or so later. When the patient cannot express pain, it will cry on passive movement, and must also be turned frequently to be comfortable. The child lies, by preference, partly on the back and partly on the side, with the legs and thighs flexed and the head thrown slightly backward. The posterior cervical muscles are frequently stiff, which sign appears just before the palsy in the average case. Pressure over them and along the vertebræ may sometimes elicit tenderness at this stage, and almost always a day or so later. As the temperature subsides, a paresis of the parts to be affected appears, which is rapidly succeeded by paralysis. When the paralysis is well established, the constitutional signs and symptoms rapidly clear up, and the child's appetite returns. The soreness and pain may persist for some days. Physical examination of the trunk during the acute stage discovers an enlarged spleen in fifty per cent of the cases, which persists for a week. Otherwise, physical examination is usually negative. Occasionally tympanites may be present. The paralysis is of course accompanied by complete loss of reflexes in the respective members. Tache cerebrale was present in a small percentage of the acute cases which I saw. Kernig's sign is rarely present, except in the fulminating cases next to be described. It is always noted when the symptoms of meningeal irritations are greatest. The general course differs from the sporadic case in its slowness of development, early evidences of pain, and other meningeal symptoms. The average duration of the constitutional conditions was four days.

Another type of case suggests Landry's paralysis, and was fulminating in its progress, the initial symptoms perhaps developing in twenty-four to thirty-six hours accompanied by complete paralysis and ending in death within seventy-two hours from the onset.

M. Allen Starr (*Journal A. M. A.*, July 11, 1908) describes the disease occurring in New York State in 1907 thus:

The onset of the disease was uniformly accompanied by a brisk febrile movement, temperature rising to 101° to 103° in the first twenty-four hours; sometimes by a slight chill, but this was the exception; usually by vomiting, malaise, general sweating, general severe pains in the limbs and in the back, sometimes attended by some rigidity of the spine and even in some cases by retraction of the head giving rise to the suspicion of a beginning meningitis.

Diarrhea frequently followed on the second day and continued for two or three days. Delirium was a common accompaniment of the fever on the second or third day. The febrile movement lasted from five to nine days in the majority of the cases. It was rarely attended by very high temperature, and even in fatal cases temperatures above 104° were the exception. On the third or fourth day of the disease the paralysis was discovered. It may have developed a little earlier, perhaps on the second day in some of the cases, but the children were confined to bed. They were usually extremely tender to touch and showed such pain on movement that they were allowed to lie quiet and hence the paralysis very often escaped notice until the third

or fourth day. It usually appeared with considerable suddenness and at its maximum extent from the beginning. It remained as the chief symptom after the fever had subsided and after the pains had become less. In the vast majority of the cases the legs were chiefly affected. In some of the cases the disease affected the arms as well. In some cases the muscles of the back and even of the abdomen were affected. In a few cases paralysis extended to the neck and to the face, and in a few cases the eye muscles were also involved.

In the cases of poliomyelitis where the legs were affected it was not at all uncommon to have retention of urine and loss of control of the bladder extending through several days, but in no case has a permanent loss of control been found. In many cases where the arms were affected the respiratory muscles were also involved, and in fatal cases death occurred from respiratory paralysis or from heart failure rather than from any febrile affection. When the face was affected a typical Bell's palsy was usually present with inability to close the eye and with a reaction of degeneration in the facial muscles. In the cases where the eyes were affected strabismus, either internal or external, was observed, but this, as a rule, was temporary, and in no cases that I have seen has a permanent strabismus remained. The paralysis was always of the flaccid type with rapidly following atrophy in the muscles and a rapid loss of faradic reaction.

The pain, which was a very marked symptom in almost all the cases, was referred to the muscles or to the back; was greater in the part that was paralyzed, though usually felt all over the body; and in some of the cases was attended by a hypersensitiveness to heat and cold, or to one or the other. Pain is a usual symptom in anterior poliomyelitis. It is undoubtedly due to the intense congestion of the gray matter of the spinal cord through which the pain and temperature tracts pass. Anesthesias were not observed. The limbs, however, soon became cyanotic and cold, and remained so. In many cases an extreme hypersensitiveness to pain, especially the pain of the electrical current, was noticed, and in many cases this persisted.

The acute onset usually subsided in the course of a week or ten days and a state of improvement was noticed beginning at the end of the second to the fourth week. This improvement in a vast majority of cases has continued up to the present time, and as a rule such improvement is likely to go on for two years.

It has also been noticed that in many cases a complete recovery has ensued. In these cases the paralysis was never very intense, but still was marked; in other cases it amounted merely to a sense of great fatigue and unwillingness to use the muscles for a week or ten days, followed by entire recovery. The frequency with which such cases, which might be termed "abortive cases," was observed is rather unusual, though in other epidemics the same type of cases has been noticed. On the other hand very rapidly fatal cases were observed, and although the mortality is somewhat indefinite, it may be stated that it amounted in this epidemic to about seven per cent. As death is a very rare occurrence in sporadic cases, the mortality in this epidemic is remarkable.

*Distribution and Type in Minnesota.*—The cases studied in this outbreak by the writer include about 30 in Winona, 12 in St. Paul, 2 in



Murdock, 7 or 8 in Finlayson, and scattered cases in other places. Attention has been paid to the rural outbreaks rather than to cases in the Twin Cities because it seemed that epidemiological evidence would be cleaner cut in the smaller places than amongst the complications necessarily encountered in a big city. These have included a wide range of clinical pictures—from the “abortive” cases, showing only a temporary weakness or paresis of the legs to cases showing complete paralysis of almost all the voluntary muscles, terminating in death within 72 hours of the onset. Several cases of the ascending type terminating in death from respiratory failure and one case of unilateral facial paralysis were encountered. The Finlayson cases were peculiar in that three showed early localization of the paralysis in the throat, with death in two cases, all three showing a remarkable accumulation of thick tenacious mucus in the pharynx and regurgitation of food through the nose and larynx, in brief, typical bulbar paralysis. One severe case of this type, extremely emaciated, was improving slowly when last seen. A somewhat similar case was recently seen by Dr. S. M. White with Dr. F. Strathern, in St. Peter.

*Characteristics of this Outbreak.*—The descriptions given above by Fox and by Starr fit this outbreak so far as seen by the writer except as follows: In a few cases, paralysis or at least inability to walk, was the first observed symptom. Severe sweating has been far from an invariable symptom; and severe pain has been rare, while tenderness on pressure or movement, especially in the neck, along the spine, and in the joints of the affected limbs, has been very common. Diarrhea has been markedly absent, most cases showing constipation from the first, which was relieved in some cases only with difficulty. Delirium, other than night-talking, has been uncommon. Retention of urine has not been marked enough for recognition except in a few cases, catheterization or hot baths being needed in only two or three cases. Enlargement of the spleen was noted in one instance only, but attention had not usually been paid to this point. Absence of angina was notable in the cases observed.

The ocular-motor symptoms observed have been restricted to some rolling back of the eyes, and that slight and temporary. Hypersensitiveness to heat and cold has not been marked, nor has loss of warmth in the affected limbs been prominent except in one or two cases, but most of the cases seen late were largely recovered.

One marked instance of this difference in temperature was seen in a boy of 16 with complete paralysis of the right upper extremity, from scapula to fingers. A curious feature in a Finlayson case of throat paralysis was a subnormal temperature per rectum (taken twice within a few minutes) with a temperature of 103° F. per os. The limbs and body were cold to the touch, the head hot, and there was no paralysis below the neck although neither plantar nor patellar reflexes could be elicited. The emaciation was so rapid and extreme, despite stomach-tube feeding, as to suggest a trophic centre disturbance, although bedsores were entirely absent.

The tendency of this disease to vary in different epidemics is shown by the differences already enumerated above, by the peculiarities of the Finlayson cases, above quoted, in contrast to the general run elsewhere, and by the peculiar incidence in St. Paul, where older children and adults have been affected in great disproportion to the incidence in the rest of the state.

*Comparison with Sporadic Form.*—The epidemic form is characterized by greater pain and tenderness, a higher fatality, and by more frequent and more complete recovery from the paralysis.

*Recurrence in the Individual.*—This condition has been noted by Auerbach (initial attack in June; second attack in August of same year, 1898); Wickman (second attack eight weeks later in one case, three months in another); and Sinkler (Philadelphia, 1908) the right leg being involved first; and after fair recovery the left leg developing paralysis three weeks later.

*Recurrence in the Community.*—Authorities differ somewhat, Harbitz & Scheel point out that Geirswold's investigation, for the Norwegian Government, of the cases in and about Christiania in 1905 and 1906 showed that districts ravaged one year were spared the following year. Whether due to immunity as they suggest or exhaustion of the available “combustible material” in the first attack seems an open question. On the other hand a certain endemicity has been deduced by some authorities, a repetition of the attack in the same vicinities from year to year being observed.

The comparative study of the reports of epidemics tabulated by Starr are notable for the lack of repetition in identical communities, other than Stockholm, where outbreaks were reported in 1887, 1895 and 1899, and in the southern districts of Sweden in 1905. On the other hand the general vicinities of Massachusetts, Pennsylvania,

Wisconsin and Minnesota have had repeated outbreaks, but not in identical districts. Until further study, more complete reporting of cases, and more systematic interchange of statistics between different states add to existing data, it would seem that this disease is unlikely to repeat in the same locality, but rather that new localities in the same general vicinage develop cases when the disease has once been prevalent, although this is by no means a rule.

*Pathology.*—Without an exhaustive recapitulation of the findings, it may be stated briefly that a diffuse cellular infiltration of the pia and grey matter of the cord, medulla, pons, basal ganglia, and even of the cerebrum, is usually to be observed in cases coming to autopsy, with increase in the cerebrospinal fluid in some cases. Pin-point or even pin-head hemorrhages at various levels in the cord, usually within the anterior horns, and in one case in the medulla, have been observed in this outbreak and are not infrequent in the others discussed. These are the only constant lesions observed.

Three autopsies have so far been secured. These were done by Dr. H. E. Robertson, of the University Medical School, Department of Pathology and Bacteriology. Experimental studies on animals are in progress. A coccus somewhat resembling that described by Geirswold has been isolated by Dr. A. J. Chesley, of the Minnesota State Board of Health Laboratories, and animals inoculated. The results are as yet incomplete.

*Epidemiology.*—A conception of this disease, may be briefly stated as follows: A peculiar gastro-intestinal condition, possibly the result of a specific infection, perhaps like summer diarrhea, ( ) due to a non-specific, miscellaneous, bacterial interrelation with poor nutritional conditions under abnormal climatic surroundings, resulting in the formation and absorption of poisonous substances which attack the central nervous system diffusely, the exact clinical results depending upon the concentration and the effects of the poison at various points.

Fox (Penna.) and the Rockefeller Institute negative the bacteriological work of Geirswold, in Norway, and make it doubtful that his coccus has any real relation to the disease. He found this coccus exclusively ante-mortem, i. e., on lumbar puncture which involves always the chance of skin contamination of the fluid when drawn. He failed, as did Harbitz & Scheel, to find it on autopsy, i. e., where sterile precautions could be carried out in vigorous detail.

The obtaining of paralysis in mice and other

lower animals by injection of bacteria, especially into the central nervous system, taken alone and without microscopic proof of the production thereby of the lesions peculiar to this disease, means little. It seems likely that a specific infective agent, if any such exists, is yet to be found.

*Distribution in the United States.*—A necessarily hasty search of the literature shows the following outbreaks to date:

	<i>American Epidemics</i>	<i>Cases</i>	<i>Deaths</i>	
1841	Louisiana .....	11	0	
1893	Massachusetts .....	26	0	
1894	Rutland, Vermont ....	126	18	14 %
1896	Cherryfield, Maine ...	9	1	11 %
1896	Greene Co., Ala.....	15	0	
1898	Merced Co., Cal.....	4	0	
1899	Poughkeepsie .....	40	1	2½ %
1900	Gloucester, Mass. ....	52	0	
1901	San Francisco .....	55	0	
1907	Ridgway, Pa. ....	50	4	88 %
1907	New York & Conn....	2,000	130	6½ %
1907	Oceana Co., Mich....	20	0	
1907	Dubois, Pa. ....	100	a few	
1908	Salem, Va. ....	25	3	12 %
1908	Eau Claire, Wis.....	58	14	25 %
1908	Hibbing, Minn.....	14		
1908	Barnum .....	30		
1908	Northfield .....			
1908	Minneapolis .....	a few		
1909	Winona .....	35	3	
1909	Minneapolis .....	a few		
1909	St. Paul .....	83	7	
1909	Waseca .....	2		
1909	Murdock .....	2		
1909	Finlayson .....	7 or 8		
1909	No. St. Paul.....	1		
1909	Lewiston .....	10		
1909	St. Peter .....	1		

These figures for 1908 and 1909 are to date only and are subject, of course, to change. There are also rumors of other cases at different points not yet confirmed. In addition to the outbreaks tabulated above indefinite references to other American outbreaks are given in the literature thus: "A few years ago some cases from North Carolina—Sinkler;" "In 1908, in Clearfield County, Penn.—Mills;" "1905 in St. Louis, a small epidemic"—Fry; "1905, Central Illinois, 8 cases"—Norbury.

The very variable death-rate, the wide distribution, the comparatively small number of cases, the tendency to attack the smaller towns and rural districts, and the absence of repetition in the same locality are well shown.

*Contagiousness.*—The apparent transmission of this disease from person to person, or through infected houses, water, etc., insisted on notably by Medin (Stockholm, 1895) and Wickman (Southern Sweden, 1905) is not borne out by the writer's studies this year in Minnesota, nor in the



study of the Barnum outbreak by Dr. H. E. Robertson in 1908.

Cases have occurred, it is true, where contact with previous cases existed, but naturally such contract involved also possible exposure to a common, although as yet hypothetical cause distinct from the cases themselves, and certainly to the same general conditions of life and surroundings.

In most of the cases so far seen not only was direct exposure lacking, but none of those concerned had ever seen or heard of a case of the disease before. Instances where but one case occurred in a family, that family being the only one affected in the neighborhood, greatly exceeded the instances where two or more members of a family or two or more families in a neighborhood suffered, and this was true despite a general neglect of isolation.

The notorious errors made in the epidemiology of malaria and yellow fever in the days before biological investigation had cleared up the exact method of transmission, serve as a warning to make no final or conclusive statement regarding the epidemiology of poliomyelitis, and our only legitimate standpoint is that so far the interpretation of evidence collected seems to lie against any marked contagion-factor in its spread.

Transmission by a common water or milk supply could be absolutely eliminated, and foods, although more difficult to trace, especially in the form of proprietary articles, showed no relation to the disease. Association with sick animals was invariably ruled out, although a side investigation, made possible through the courtesy of Dr. C. S. Shore, veterinarian, of Lake City, showed the existence of a number of cases of a disease in colts, three of which were seen by the writer, strongly analogous in clinical history and symptoms to the disease in human. Autopsies in any new cases which may develop amongst colts in that vicinity have been arranged for. Mean-time enquiries of veterinarians and horsemen in the other localities visited fail to elicit anything pointing to the existence of this disease amongst any of the lower animals. Much attention was paid to the prevalence of dirt-eating amongst the children, especially where gardens were attached to the house and raw vegetables pulled and eaten direct from the garden between meals. This also failed to prove at all a constant feature. Parasites in general and especially those contracted from garden insects were considered and fairly well eliminated. Enquiries in many other speculative directions failed to establish

any condition common to all the cases, with one exception, dust.

*Relation to Dust.*—It has long been noted that epidemics of anterior poliomyelitis have occurred chiefly in exceptionally hot, dry weather, but two exceptions have been noted where the weather was damp and cool. In the Minnesota outbreaks extremely hot, dry weather was noted in Barnum, Winona, and Finlayson. In the Twin Cities there has been more rain than in the other cases; this was true also in Murdock. At the same time enquiry showed in almost every case, wherever seen, prolonged exposure to dust, infected with animal, especially horse feces, and this was as true in country districts away from well travelled roads as in the cities.

Although it is convenient to think of poliomyelitis as of gastro-intestinal origin, it is notable that inquiry has invariably shown unusual freedom from intestinal troubles in the localities this year invaded, and specific freedom from such troubles in all families and even the particular patients affected, with very few exceptions.

As a general rule the children affected had been exceptionally robust and active, with good appetites and living on a general diet. But it was notable also that the children as a rule were not in well-to-do families nor likely to have first-class nutritional facilities, although to this also there were some notable exceptions.

The nationality of the families is largely foreign, so far as investigation went. This seems to correlate rather with the fact that it is amongst these people that poor living in neglected localities, with unwisdom in feeding, etc., exists, than with any particular racial physiological deficiencies. That nutrition is likely to be low amongst the Scandinavians in their own country, in spite of naturally good physiques, may be noted in connection with the great prevalence of these diseases in Norway and Sweden.

It is noteworthy that recent oral information secured by Dr. H. E. Robertson from an East Indian trained nurse makes it appear that this disease is very common amongst the native children during the hot weather, especially at the end of the dry season; i. e., amongst children of a notoriously low nutritional status, at a season notorious for intense, overwhelming heat, dryness, and dust. The white children, belonging chiefly to the families of officials, better nourished and generally, when possible, taken to the hills during the hot season, seem to escape almost entirely. Curiously enough, the literature so far consulted makes no mention of this. It



is worth noting also that the outbreaks in New York, Connecticut and Pennsylvania were in 1907, a time of financial depression and suffering amongst the class which usually contributes these cases, and naturally low in nutritional standards. The outbreaks last year and this year might easily be traced to the aftermath of the same conditions. If we may be allowed, for the purpose of forming a working hypothesis, to regard this disease as at bottom dependent on metabolic disturbances or deficiencies, these more or less dependent on insufficient food, combined with excessive climatic heat and drouth, an interesting "analogy by contrast", may be presented with summer diarrhea as follows:

<i>Summer Diarrhea.</i>		<i>Anterior Poliomyelitis.</i>
Hot, damp.	<i>Weather.</i>	Hot, dry.
Slow.	<i>Onset.</i>	Abrupt.
Under 2 years.	<i>Age.</i>	Over 2 years.
Overfeeding.	<i>Feeding.</i>	Underfeeding.
Diarrhea.	<i>Bowels.</i>	Constipation.
Poor.	<i>Previous health.</i>	Good.
Slum dwellers.	<i>Incidence.</i>	Rural dwellers.
Marked.	<i>Elimination.</i>	Retention.
Continuous.	<i>Dietetic errors.</i>	Accidental or absent (except deficiency.)
Marked.	<i>Intestinal incidence.</i>	Slight.
Slight.	<i>Nervous incidence.</i>	Marked.
Obvious.	<i>Relation to milk.</i>	None.

The differential diagnosis from epidemic cerebrospinal has been given in a previous number of this Journal (Dec. 1, 1908).

In this outbreak, doubt of the diagnosis in the first day or two or three might properly exist, but most cases seen by the writer presented no difficulties later. The most conclusive method at a doubtful stage is lumbar puncture, the typical cloudy, cell-filled fluid of epidemic cerebrospinal meningitis contrasting strongly with the clear, colorless fluid of anterior poliomyelitis.

Cancer of the posterior part of the tongue invades the lymphatics, not only on the side upon which the disease is located, but also upon the opposite side, because of the peculiar anatomy of the lymphatics of this region.—American Journal of Surgery.

In a child presenting symptoms of tuberculous disease of the cervical spine, it should be remembered that other conditions, such as torticollis, inflamed lymph nodes, and sprain of the cervical ligaments, are capable of giving similar symptoms.—American Journal of Surgery.

## THE RELATIONS OF TRAUMA TO BONE TUBERCULOSIS

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CHICAGO

An address delivered in October, 1905, before the American Association of Railway Surgeons, and published in the *Railway Surgical Journal*, in 1906. It is reproduced in our columns by special request and with the consent of Dr. Murphy and the *Railway Surgical Journal*.—Editor.

The subject which I wish to call your attention to today is the relation of trauma to tuberculosis and to tuberculosis as it concerns the railway surgeon especially. We have always had a feeling that there is a certain relation between tuberculosis and trauma. You all remember, doubtless, the teaching of the late Moses Gunn, how he endeavored to impress upon students the fact that a trauma bears a close relation to tuberculosis. The difficulty to associate trauma at that time with tuberculosis was due largely to a lack of knowledge of the method of development or advancement of the tuberculous process, that is, of the cellular changes that fol-

lowed the localization of tubercle bacilli in a definite position.

As far as tuberculosis is concerned, the surgeon has it presented to him in the following order in relation to frequency: first, bone and joint tuberculosis; second, tendon tuberculosis, and by that I mean tuberculosis of the *tendon sheath*, not of the tendon itself, because we never have tuberculosis in the latter; third, skin and mucous membrane tuberculosis; fourth, tuberculosis of the genito-urinary tract, and fifth, tuberculosis of the meninges and peritoneum.

In none of these cases do we find the clinical course so closely corresponding to and so exactly fitting the pathologic condition as in bone tuberculosis. Tuberculosis of the bones and joints essentially and practically means tuberculosis of the bone itself, because we rarely ever

have primary tuberculosis of the synovial membrane, just the same as we rarely ever have—indeed, if we *ever* have—a primary tuberculosis of the peritoneum. Tuberculosis of the joints, therefore, is secondary, that is, secondary to osteitis. The relation of trauma to this tuberculosis is the point I wish to speak of today and the clinical course following trauma. I wish to emphasize this particularly because it has been my experience to come in contact with a few cases in court and a large number of cases out of court where the trauma was directly related to and was the principal etiologic factor in the localization of the tuberculosis. Tuberculosis in bone follows trauma. Why does it follow trauma? What is the immediate relation between the trauma and the tuberculosis? Trauma of bone produces a lesser resistance or a hemorrhage at the point where the greatest force of the trauma is extended. In adults we rarely ever have a primary tuberculosis of the knee following a trauma. Why? Because the adult does not often fall on his knee. We have children suffering from tuberculosis of the knee or hip-joint, because they frequently fall on the knee, and when they do the force is often transmitted to the hip-joint. Again, we find that if we trace the relationship of the trauma, and we find out exactly how a child falls, or how the patient was injured, we can say definitely what portion of hip-joint will be involved. We can say that in the upper portion of the head of the femur or in the lower part of the neck will be the site of the tuberculosis when the force is transmitted from the knee. If a man or child has received an injury to the spine, you can tell from the position of the fall where the tuberculosis is going to be located in the body of the vertebræ, and what type of flexion or deviation from the normal is going to occur.

How soon after trauma does tuberculosis manifest itself? It must be looked at from a pathologic standpoint as an eruptive disease. It is typical of all of these diseases that they manifest themselves in an eruption after a definite period of incubation. In measles we have it the fourth day; in scarlet fever we have it in the first forty-eight hours; in smallpox we have its definite period; in tuberculosis we have a uniform period of time elapsing before the disease manifests itself in the way of symptoms after the trauma, and that period of time varies in tuberculosis more than it does in the other eruptive diseases depending upon the age of the patient. Younger patients have a more rapid tissue re-

generation; they have a more rapid tissue response to irritation, therefore they manifest the localization of the tuberculosis by symptoms earlier than do adults. After a trauma in a child five or six years of age, tuberculosis will manifest itself in the way of pain or discomfort in a joint two or three weeks after the trauma, rarely beyond three weeks, and rarely earlier than two and a half weeks. There will be discomfort in the joint, restlessness at night, and when the patient gets up in the morning there will be discomfort or pain when he walks. The disease may be located in the head of the femur, but as the destructive process advances and approximates the surfaces where the pressure comes on the bone, the patient has pain in from two and a half to three weeks in children of the age I have mentioned. In the more advanced periods of adult life, when the patient receives a trauma, the eruption, or tubercle, so to speak, does not manifest itself in its approximation to the surface of the bone before the end of the fifth or the beginning of the sixth week, and rarely, if ever, as late as the seventh week. The patient has pain, discomfort, and stiffness of the joint. In children we have found that tuberculosis following trauma develops three and a half weeks after the injury; in adults it comes on six or seven weeks after the injury. Again, we have found in children that tuberculosis attacks the long bones on the diaphysis side of the epiphyseal cartilage, which is the position where we have the slowest circulation, where the vessels are looped as they reverse their course into capillaries of the veins, from the capillaries of the arteries.

We have in the adult, what type of trauma? The adult rarely ever falls on his knee. The adult rarely ever sustains such an injury as to get tuberculosis of the hip-joint. What fall does the adult get? He falls forward, perhaps downward, striking on the buttocks, or he falls backward on the spine, and we have tuberculosis taking place in the spine of the adult much more frequently than in any of the other bones. What has astounded me particularly in the last few years is the number of cases of tuberculosis of the spine in adults which have been absolutely overlooked or never examined for by the general practitioner. I can say to you that I have fully twenty cases of adult tuberculosis of the spinal column under my charge at this particular time, and I venture to say that not two in ten of these were ever examined. The patients were treated for lumbago; they were treated for

all sorts of neuralgias. These patients were not stripped and examined. It is one of the diseases in which you can make a positive diagnosis. It is one of the diseases in which the patient has a most pronounced manifestation or manifestations, if an examination is carefully made.

To recur to the injury: Let me cite a case illustrative of the type of spinal tuberculosis in the adult.

A patient came to me from a considerable distance complaining of lumbago. He had been to London; he had been to Dublin; and he came to this country to have a diagnosis of his case made. He had been treated for sciatica, because he had pain radiating along the sciatic nerve. On examination he declared positively that he never sustained an injury. He had fixation of his spine from the tenth dorsal vertebra down to his sacrum. He had but a slight concavity forward when he first appeared here, about two and a half years after the onset of the pain. Interrogating the patient closely, we found that this man one night came in from a ride, hitched his horse, walked through the barn, fell forward, and struck on his elbows and hands in this manner (illustrating). I said to him, "Did you have any pain?" "Yes, I had pain in the back. This all disappeared in a few days." "How long was it after that before you noticed that the pain in the back was sufficiently severe to annoy you or give you great discomfort?" "Two or three months." When we came to trace the history more definitely, it was seven and a half weeks by actual count from the time he sustained this fall until the pain in the spine was sufficient to attract his attention.

What type of deformity will he have from that injury? What portion of the body of his vertebrae would become involved in an injury where a man falls forward and strikes on his elbows and hands? The weakest point of resistance would be, where? At the curvature of his spine, below the last rib, or at the costal and lumbar junction. Which portion of the body of the vertebra would be injured in that type of fall? Not the anterior portion. If he fell from a height and struck on his buttocks, and doubled himself forward, the anterior portion of the body of the vertebra would be injured. Falling in this manner forward (indicating), his back was curved in this direction (forward), and it was the posterior portion of the body of the vertebra that was injured, and after that lordosis gradually developed. This patient has

been here for a number of months. He subsequently developed psoas abscesses and went through the classical course of a tuberculous osteitis of the spine. In tuberculous osteitis of the spine we never have the disease originating in the transverse or spinous processes, or in the laminae, but always in the *body* of the vertebra. If the disease originates in the anterior body of the vertebra, then you have a projection backward of the spine. If the injury is to the posterior portion of the body of the vertebra, the patient will have lordosis; he will have curvature forward. The period of time which you have noticed elapsed in this case was the regular period for the development of the osteitis.

The next question is, What do we all fear from this patient in addition to the deformity and to the psoas abscesses? We had to fear that he would, like so many of these patients, have anterior curvature, with compression of the cord. We have a compression of the cord occurring with a much larger percentage of cases where the curvature of the spine is forward than we do where the curvature of the spine is backward. This picture which I show you is intended to illustrate the position of attack. By looking at it you can see where the tuberculosis attacks the anterior portion of the body of the vertebra. That produces a curving backward. Where it attacks the posterior portion of the body, you can see that it softens the body of the vertebra in this position; the processes slide by one another, and you have a lordosis produced. But a tuberculous granuloma is in the posterior portion of the body and the position of lesser resistance is, therefore, in the direction of the spinal canal. The position of lesser resistance allows, what? The granuloma to project through the posterior wall of the body of the vertebra, and it presses on the cord in the spinal canal. As compression goes on, it produces paresis, and finally leads to continued paralysis if the granuloma attains a sufficient size. Formerly, we were taught that it was a curvature backward or a sliding of one body on the other that produces paralysis in connection with Pott's disease. But dislocation of the vertebrae rarely, if ever, occurs. It is the projection of this soft granuloma onto the cord that compresses it and eventually produces paralysis. This paralysis is always avoidable by early decompression of the cord by removal of the spinous processes and laminae. It is unpardonable to permit complete paralysis.

Let me cite another case of injury of the spine



as to the type of deformity and as to the immediate manifestation of symptoms. If we have a patient suffering from bony trauma, and that patient has a temperature the next night or the following night, you know it is not tuberculosis. You may see that patient one year after, ten years after, or twenty or fifty years after, and he will not have tuberculosis. There came to my clinic at Rush Medical College a patient who, fifty years previously, in playing, fell and struck on his knee. The next day he held on to a yoke of steers that ran away. He jumped on to a wagon and struck on his knee a second time. That night he was delirious. The next morning he had a temperature of 103°. In the afternoon of the next day he was seen by a physician, who said that he had rheumatism of the knee-joint. Two years after that a little below the knee-joint an abscess developed, from which a fragment of bone came away. He was in bed a year. This was not a case of tuberculosis. Fifty years after that we opened an abscess in the tibia, and removed a fragment of bone which was there all that time, the result of osteomyelitis. With care the differential diagnosis between tuberculosis and osteomyelitis can be readily made, because these patients never have the typical eruption, so to speak, producing symptoms inside of three and a half weeks at the age of ten years. In the osteomyelitic cases following trauma, the temperature manifests itself inside of seventy-two hours in the less virulent cases, and inside of twenty-four hours in the virulent. We have the patient crying out with pain the night following the injury.

Let me mention another case. A little boy standing on the edge of an elevated sidewalk fell backward and soon after began to cry from pain in his back. Some friends picked him up and took him home. The next day and the next week he was apparently well. Four weeks from that time, however, he was sent home from school on account of crying from pain in his back. This matter of the relation of trauma to tuberculosis came up in the circuit court of this county, and evidence was given to the effect that if we have a case of tuberculous osteitis, it is positive that the tuberculosis was localized by the trauma received four weeks before, and that this spinal disease of the body was the direct result of the trauma; that the curvature of the spine was a sequence of the accident, because four weeks had elapsed.

The next matter in connection with tuberculosis in bone injuries to be considered is that

where a patient has been injured and in two and a half or three weeks complains of pain, the joint is not yet involved. In 127 cases of resection of the knee-joint, I found only one case in which I felt reasonably certain that the disease did not primarily involve the bone. That occurred in my early experience, when I thought synovial tuberculosis of a joint was common. When a patient gives us the signal of disease by manifestations of pain, by the manifestation of symptoms of discomfort, who complains when he walks, it is an indication, first, as to the localization and position of the focus of disease, then you can begin to take precautionary measures in regard to the joint being involved. By putting the patient in a condition of constitutional resistance, first, and then, second, in a condition of local resistance, that is, by relieving the diseased bone from pressure, you accomplish a great deal. Why does the relief of the diseased bone from pressure save the joint? Every type of infection, from actinomycosis down, which is probably the slowest and one of the least destructive of the acute infections, to the streptococcus type, is hastened in its destruction of tissue by pressure. If you relieve the pressure you lessen the destruction of tissue. This can not be more beautifully illustrated than to take any of the bone abscesses or the common abscess that occurs in the alveolar process. If a dentist finds an abscess of the alveolar process, he taps it, and that ends it. The pain disappears. The destruction of tissue ceases. In tuberculosis of a bone approximating a joint there is the manifestation of pressure symptoms, and if you relieve pressure, you lessen the likelihood of the joint becoming involved. Therefore, the early recognition of the relation of pain and discomfort to trauma tuberculosis will enable one to make a positive diagnosis, which is of the very greatest value to the patient. It is just the same in the early recognition of pain in the neighborhood of the knee-joint the next day or day after the trauma; if chill, fever and delirium come on, and are there within forty-eight hours, you may rest assured that you have to deal with an acute osteomyelitis, either of the tibia or femur, and if the tibia or femur is tapped at once, or you cut down on to the bone, and if you have not a drill, drive a nail into it and withdraw it, you avoid necrosis that occurs subsequently; you avoid subsequent involvement of the joint; you avoid a prolonged sickness 18 to 20 months and finally a sinus with a dead mass of bone in the center. If you

relieve the pressure, you will have no danger of opening into the joint or necrosis.

A very important subject, one which concerns railway surgeons, is tuberculosis of the spine in the adult. That tuberculosis of the spine occurs frequently after railway injuries, after falls, severe flexions or extensions of the spine, we know. We can recognize this if we will only examine the backs of patients when they say they are suffering from lumbago. We can avoid deformity in every one of these adult cases, because the course of tuberculosis in the adult is extremely slow. The adult offers a much greater resistance to the advancement of the tuberculous process than does the child, except in the glandular system of the child. In the bone we can avoid deformity entirely; we can lessen the liability to the formation of psoas abscesses by at once immobilizing the spine; by at once putting the patient in a corset you can relieve him of pain and discomfort. You will have, however, a class of cases in which there will be considerable difficulty attending the differential diagnosis, and that is the class represented by this specimen which I show you and will pass around. It is an extreme specimen of ankylosis. It is a specimen of arthritis deformans. In adults the disease goes on much more slowly; it is not associated with trauma; the limitations of motion are more marked and pronounced earlier than in tuberculosis. You can see that this man would have great limitation of motion, because the moment he endeavors to spread his limbs or twists them in any position there is an impingement of the exostosis against the margin of the acetabulum. You can see in this spinal case that motion has been limited by the actual impingement or ossification of the various bodies. This disease occurs in a different class of patients. You will find in the gouty a type of patients where the knuckles are involved. You will find it in patients with thickened arteries in whom you rarely ever find tuberculosis.

I have now in the Mercy Hospital the case of a prominent man in this community. In riding in one of the small electric railways at St. Louis during the Fair, the car jumped the track, he fell out, and fell backward over the edge of the car. He sustained an injury of the posterior portion of the body of his vertebra. He had also an injury of the neck. He has now an abscess appearing here (indicating), a cervical abscess from the lesion of the 7th cervical vertebra. He has lordosis from a lesion lower down in his back. He has not had a psoas abscess. Both of these

followed in the regular time after the trauma which he received on that occasion, and both were due to the trauma localizing the tuberculosis.

I recall the case of a prominent railroad man, who weighed 170, was 5 feet 6 inches tall, and built like an athlete. He had a little irritation in urination for a year and a half. He paid no special attention to it, as it merely required him to rise once or twice at night. He was 54. He looked anything but a tuberculous subject; he had that strong, wiry hair you rarely see in tuberculous subjects. He was passing through the freight house one day and lifted an oil-can that had a wire handle: this pressure pained him temporarily in the finger. He came to see me five weeks later. The slight accident had passed out of his memory, but he came in because he had a swelling on the anterior surface of the index finger. It proved to be a case of tuberculosis of the tendon sheath. He had never had a cough; he had never had any trouble in his abdomen or chest, and on examination I found a little tuberculous nodule in his epididymis. This tuberculous nodule accounted for the irritation he had in urinating.

Let us follow the case. I operated on the epididymis and removed the tuberculous nodule. About eight weeks after this there were tubercle bacilli in the urine, probably from his prostate or kidney. In boxing with his son he was struck at the junction of the cartilage with the rib, and three weeks after he came to me and said that he had pain in his chest. He was fearing tuberculosis, and came because he had pain. On examination I found a tuberculous rib and removed it. He was playing golf one day, slipped, and his golf-club struck him in the testicle. Following that, he had epididymitis on the other side. It was tuberculosis, and was removed. He then sustained an injury to the posterior surface of his humerus, and again it was followed in regular time by tuberculosis. Finally, he began to have some trouble with his urinary tract, and then tuberculosis developed in his prostate, which involved his bladder. He was referred to a specialist and was operated for the removal of the prostate, and died very soon after the operation.

I have cited this case to show how tuberculosis manifests itself as a result of trauma to the tendon sheath in this case, and how each of these new developments occurs following trauma. So much for the manifestation of symptoms and for

the clinical history in the time element. Now, we come to the element of treatment.

What can we do for these cases of tuberculosis of the spine? What can we do for early tuberculosis of bone? First of all, we must relieve them of pressure. Second, and what is significant in the cases that have come under my observation, has been treatment by the x-ray. It seems to me, in no place, except in tuberculosis of the skin, have I been able to get such pronounced and uniformly good results as with the x-ray treatment of tuberculosis of bones. In tuberculosis of the spine, all of the patients have had x-ray treatment; all of them have progressed much more rapidly than they ever did by any line of treatment I followed before. Whether it is of real value, and whether it will finally become one of our best means of treatment for these cases, I do not know; but we have this much in favor of it, namely, it stimulates the reproduction of connective tissue, even to such a degree as to cause necrosis or death. It increases the quantity of connective tissue in an irritated area. Tuberculosis is healed in every position in the body by an excessive production

of connective tissue, namely, by an encapsulation of the disease. Third, we give all of these cases tuberculin hypodermically once a week, always small doses.

The old tuberculin (Koch) seems to give the best result in stimulating the process of repair. A reaction of a degree or degree and a half of temperature with nausea or vomiting and malaise following a tuberculin injection is an "excessive" reaction and is detrimental rather than beneficial to the patient. Small doses with very mild reactions give the best results. When paresis is manifest a laminectomy with an enucleation of the granuloma when feasible should be performed and always before complete paralysis. Once the paralysis is complete and degeneration of the cord has taken place, laminectomy does not benefit the patient except when the pressure is below the 12th dorsal vertebra and only involves the cauda. Regeneration of the axones after caudal paralysis is probable as the caudal axones have a neurolemma and are capable of regeneration after division or compression.

## PHYSICIANS' INVESTMENTS

(A Series of Five Papers)

### COUNTRY BANK STOCKS—THIRD PAPER

By JAMES J. LAMBRECHT,

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MINNEAPOLIS

What little comfort physicians have in the past been able to gain from the implied compliment that "a real good doctor is usually a very poor business man," is, by various processes of education and experience, being changed to the idea that the hard-earned dollars of the physician no longer have a right to go astray, in view of the danger signals set out since the subject has become one for discussion in medical conventions and in such mediums as are devoted exclusively to the profession.

Passing over an era of stock-selling and fascinatingly-speculative development propositions as one in which the M. D.'s have, in the past, carried the greatest burden or loss, brings the subject to that plane where "standard" investments may be relatively compared. Assuming that standard investments are those confined to municipal and corporation bonds, real estate and

mortgages upon the same, and city and country bank stocks, an analysis of the latter emphasizes the fact that they are the ideal investment for the man seeking the highest return commensurate with his ability to invest, and from time to time as the sums may be gotten together. Reference to the other standard forms of investment is only made in order to show that country bank-stock ownership is the preferred goal of that class of investors who have no axe to grind in a commercial way, yet seek a higher earning than the low-interest securities return.

Municipal and high-grade corporation bonds are, because of their very character,—basis, denominations, low interest, and quick negotiability,—the especial channel for the reserve funds of life insurance, trust, and financial corporations whose own obligations are governed by mortality, crops, and commercial and financial strife.



Real-estate investments and mortgages upon real estate should properly be backed by some knowledge of realty values, and while there is probably no truer saying than "that land is the basis of all wealth in some form or another," the statement is more general than specific in all cases. The large life insurance companies and savings banks now practically control the choice mortgage loans of the country, and the established interest rate for several years has been 5 and 6 per cent, four-fifths of the loans being placed at the lower figure.

No intelligent discussion of bank stocks could be had if we did not at the outset divorce city bank stocks from those of country institutions. Each is in a class by itself, differing in the elements of control, purposes in holding, earning capacity, and risk. In the first place, a clearing-house bank of the city is rarely ever managed by a set of men who themselves actually own a majority of its stock, but rather by officers who serve the commercial interests of all of the bank's stockholders. When it is understood that stocks of the leading banks of the city, which have a par value of \$100, sell at \$240 where the dividend rate is 10 per cent, and at \$300 where the dividend rate is 12 per cent, making the net return only 4 per cent to the holder, it should be needless to explain that investment is not the object or the real purpose served; especially not when it is considered that such stocks are subject to a double liability. Stocks of city banks are principally owned by the various commercial interests which in turn use them, and very often to the extent of manipulation, as in the case of Standard Oil banks, which are powerful enough to disturb the nation's prosperity when bringing a quarry to net.

A country bank is invariably managed by men who are its largest stockholders. It cannot be denied that it is an invaluable asset to a bank to have the managers' personal fortunes, as well as their integrity, back of the institution. The management usually aims for a larger return from dividends on stock owned than from salary allowances, which custom has, at least up to date, kept at about one-fourth the remuneration allowed city bank officials. The great aim of the country banker is dividends, and it is usually considered that a country bank which does not earn better than 20 per cent on its capital is "in wrong," or that an operation or amputation should be performed on the management. It is an undisputed fact that country banks of the Northwest have an average earning of better

than 20 per cent, and a large number earn twice this amount.

Consider the opportunities of the country bank. It not only performs all of the functions that the city institution does, but it acts as the clearing-house for the products of the community; is most always in on every real estate transaction made; has the first bid on mortgage loans placed; writes fire, hail, and other insurance; sells steamship tickets; does conveyancing and notarial work; and usually controls, directly or indirectly, the townsite itself. Furthermore, it is frequently a self-instituted bureau for information and advice, just as though the brains of the community, as well as its money, were on deposit and subject to draft in case of need. All of these things give the country banker an opportunity and a money return other than the mere item of interest on money loaned, and a country bank can meet all of its operating expenses from side issues which are foreign to a city institution.

The element of risk in a country bank is practically nil. A country banker is by training a "sure-thing gambler". He not only knows the exact property status of his customer, but his every environment, when weighed in the balance for a loan. It was truthfully said of one country banker that he knew just how many white spots were on every red cow which he had from time to time covered by chattel mortgage.

The element of dishonesty is too slight for serious consideration from the standpoint of investing in the stock of a country bank. When a country bank goes wrong, it means the extreme penalty of suicide or jail for the wrong-doer, and the reorganization of the institution because of its very necessity in the community.

Strange it may seem that, if these glowing virtues of country bank stocks are true, they could be discussed as an available investment. However, the fact remains that country-bank stocks never carry the excessive premiums attached to city-bank stocks, and that minor holdings can be purchased; and, furthermore, that such holdings may be scattered to cover many institutions, and thus eliminate the risk of simply being interested in one bank, and also to gain the benefit of the general average. Minor interests of country banks can always be picked up and at a fair price. During the past ten years the number of country banks in the states of Minnesota, North Dakota, and South Dakota, alone, has increased nearly five times, and the total bank deposits of the three states now aggregate over

\$310,000,000, whereas ten years ago they were only \$77,000,000.

It is true that country bank stocks are not listed stocks, but the increase in this class of securities has been so great and so attractive from an investment standpoint that the availability of securing such stocks has, in recent years, been made possible. One of the leading financial corporations of New York City has established a bureau or exchange for the handling and transfer of bank stocks of institutions in every

section of the country, and has thus created a general market for a class of securities which heretofore rarely got beyond the boundaries of the towns or hamlets which gave them birth; and other mediums for the handling of country bank stocks have been established in bank-reserve centers. This greater freedom in the exchange of country bank stocks will, in time, make their selling price higher than at present, but today no form of investment carries with it the alluring returns and general environment of safety that is offered by this class of stocks.

## A PLEA FOR THE NEURASTHENIC\*

By W. T. ADAMS, M. D.

ELGIN, MINN.

### CASES

Probably there is no class of cases that are looked upon by the physician with so much dread, and regarded by the patient as so unsatisfactory in their treatment, as the cases that the doctor consigns to the category of *neurasthenia*. Unfortunately, both for the physician and patient, these patients are numerous, and it is the writer's opinion that there is no class of cases so much neglected, and in no place does the physician lay himself open to so just criticism, as he does when he examines, in a casual manner, a patient, man or woman, and ventures the diagnosis of "neurasthenia". True, there are numerous cases for which, try as we may, we can find no better diagnosis, but the writer has long since been of the opinion that when a doctor really diagnoses "neurasthenia", he has confessed that he has failed to make a diagnosis, and uses the term to satisfy the patient and friends, while, if he were able to uncover the true cause of the patient's ailment, he would have at least the satisfaction of knowing that he is not derelict in his duty; and often the cause of the so-called neurasthenic condition will prove to be removable. In these days of advanced ideas as to diagnosis, and with the aid of the great number of instruments of precision and facilities for the study of every organ of the body, it seems to me that the responsibility fixed upon the physician is very great, and he must call in every aid that is available before he consigns his patient to the awful fate of "neurasthenia".

*Case 1.*—Miss B. died at the age of 78 years, after living the life of a neurasthenic for more than fifty years. As a young woman she was possessed of a fair degree of health, but finally, we are told, she was disappointed in a love affair, and began to fail in health. She gave a history of numerous spells of sick headaches, accompanied by vomiting, and had numerous "bilious spells", and would be confined to her bed for days at a time. She early began to go the rounds of the physicians' offices and was put down as a neurasthenic, the beginning of which career was looked upon as the time when her fiancé was struck by lightning and killed. To be brief, she wearied herself and friends for many years, at one time remaining in bed as a confirmed invalid for about eight years, during which time she was under the writer's care, and all the time the best diagnosis made was "neurasthenia", notwithstanding the fact that at times she had mucocolitis, and at times was prone to diarrhea and would vomit upon the slightest suggestion. Much of the time the pulse ran as high as 120, and occasionally there was some temperature. For two years of this period she was suffering from mental delusions. She had attacks of erysipelas, and a few years before her death she had an attack of herpes zoster. I called to my assistance nearly all the physicians in the surrounding towns, many of whom are regarded as expert diagnosticians, but all alike had the stereotyped diagnosis, "neurasthenia".

Her urine was tested at frequent intervals,

\*Read before the Wabasha County Medical Society, July 8, 1909.

and always with normal results, until, during the last weeks of her life, she developed acute albuminuria, and died in a comatose condition after a number of weeks in which she lay stupid.

Many times in the years gone by she maintained that there was something wrong with the right side of the abdomen, but repeated examinations failed to show the existence of any abnormality. She was always very sensitive to the action of cathartics, and it was no uncommon thing to find large amounts of viscid bile in the stools. She was so much in the habit of complaining that both friends and physicians were wont to lay little stress upon her complaints. Every effort was made to make her comfortable, but for all that she endured a great amount of suffering.

She died March 2, 1909, and an autopsy was made the same day, and the following were the findings:

The liver, about normal so far as weight was concerned, had an elongated, tongue-shaped process growing down from the posterior lower margin of the right lobe, which extended along the posterior wall of the abdomen into the right iliac fossa, where it terminated in a bulbous enlargement that filled the fossa nearly full. The texture of the liver did not appear to be in any way abnormal. The gall-bladder, otherwise normal, was filled with concretions of the inspissated bile variety, the surfaces of which were rounded and smooth. These concretions were, no doubt, of bacterial origin. The general texture and character of the liver did not seem to be abnormal. The stomach, which had been the great center of attention during life, was found to be nearly normal in every particular. The small intestine was in fairly good condition, and the appendix was normal. The entire colon was found to be prolapsed, the whole mass occupying the pelvis behind and around the bladder. The colon was stretched out so that there was no trace of the convolutions left. It was simply a straight tube, the lumen of which was reduced to an average size of a half or three-quarters of an inch in diameter. The walls were very much thickened, and in places there were hardened masses which showed that there had been lesions of graver character. The longitudinal bands were demonstrable, but the sacculated appearance of the colon was lost. The rectum was, for the most part, normal.

Of the other viscera the spleen was, if anything, rather under-sized, and the pancreas was

normal, but the kidneys were well-nigh destroyed. The pyramidal bodies were soft and, in physical appearance, were almost obliterated.

This case is instructive in view of the fact that while there had no doubt been for years certain pathological conditions, no one had been sharp enough to diagnose them, but the patient had been listed as a "neurasthenic", and the true condition of her case was not fully understood. Whether more could have been done for her relief, had an accurate diagnosis been made, is a pertinent question, but that there would have been a sense of satisfaction in a more complete knowledge of her case goes without saying. One would be justified in attempting an operation simply to explore, rather than let a case of the kind go undiagnosed. The condition of mucocolitis had been diagnosed years ago, and treatment directed accordingly, with more or less good results; and perhaps everything was done that should have been, but finding so much that was a departure from normal conditions in this notorious case, causes me to inquire whether we always do our duty by the neurasthenic. Her death was caused by uremia, which was, without doubt, of recent origin.

There is another case with which I have just had an interesting experience. A married woman, about 35 years of age, has been going the rounds as a neurasthenic for about eight years, and has been in the hands of some good men. She came to consult me on account of a stomach trouble. She would lie in the office chair, and in two or three minutes she would swallow so much air that her stomach would be blown up like a bladder. She would then undergo a series of contortions, belch the gas from the stomach, and be relieved. I conceived the idea that there must be a reflex outside of the stomach that caused the trouble, and after painstaking examinations decided to make a cervix operation, a curettement, and an Alexander operation, feeling that in doing so I was correcting several things that might be a source of trouble, which justified the operation, but, secretly, I banked a good deal upon the moral effect and supplemented the operation with the strongest kind of suggestion.

During the time the patient remained in the hospital and up to the present time, which is nearly a month since she was dismissed, she has had no return of the stomach symptoms, and I think I am justified in considering her cured.



In conclusion, I will simply add that I think it our duty to consider the neurasthenic patient with the utmost degree of thoroughness, and have always in mind the possible existence of some disturbing factor far remote from the objective seat of complaint. Who has not seen the obstinate cause of constipation relieved when the physician has discovered and operated for hemorrhoids. The writer has just attended a case of *grand mal* in a girl thirteen years of age, who has had as high as fifteen seizures in a single night, and of the severest type, and in about ten days I succeeded in reducing the number of seizures to an average of about two per night, and some nights there are none, and the

severity is very much lessened, and this was done by simply looking carefully to the condition of the bowels and kidneys, using small doses of podophyllin for the former, and five to ten-drop doses of tincture of digitalis every four hours for the latter, which served to increase the flow of urine slightly, and has reduced the heart-beats from 160 to 80 or 90 per minute.\* I mention this to substantiate the fact that physicians too often regard their cases of nervous diseases too lightly, and neglect many of the vital considerations pertaining to their welfare.

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\*During this time much less of the bromide had been given than formerly, from ten to twenty grains of potassium bromide at bedtime being the amount now given.

## RETROPERITONEAL LIPOMA

By M. S. HENDERSON, M. B.

Clinical Assistant in St. Mary's Hospital

ROCHESTER, MINN.

Retroperitoneal lipomata appear to be sufficiently rare to warrant recording a case that was under observation in the clinic at St. Mary's Hospital. This case is one of two that have been observed in the Mayo clinic.

Literature on this subject is fairly abundant, but is mostly confined to that which has been written by European surgeons. A detailed, clear, and concise report of two cases is to be found in the Journal of the American Medical Association for October 22, 1904, by Dr. George Ben Johnson.

Until the year 1904 there were only about fifty cases on record. In Adami's classification, published in 1896, based upon forty-two cases, they are divided according to their origin into three groups: first, perirenal; second, doubtful; third, mesenteric. It is, however, variously estimated that from one-third to one-half originate in the fatty tissue about the kidneys, the remainder falling into one of the other two groups. Their growth may reach an enormous size. One case is reported in which the tumor weighed sixty-six pounds and several are reported weighing over forty pounds.

These cases are essentially benign in their character as only three of the cases on record showed sarcomatous degeneration, and only one patient who recovered after the removal of the growth required further surgical interference. These growths are a menace to the patient in only two possible ways: primarily, by their large size; and, secondarily, by their tendency to occasional sarcomatous degeneration, the latter condition being of sufficient frequency to alone demand their removal.

These tumors are composed of fatty tissue, with varying amounts of fibrous and myxomatous tissues, and are therefore designated as *lipoma*, *fibrolipoma*, and *myxofibrolipoma*. They are not encapsulated, and hence are difficult to remove *in toto*.

But few symptoms are produced by such tumors, and they exert their baneful influence upon the individual by mechanical effects due to pressure on neighboring important organs. Usually it is the large size of the tumor which leads the patient to seek relief. A dragging sensation, which does not amount to real pain, is usually complained of. Nausea and vomiting may be present, and the latter may be so persistent as to cause a marked degree of inanition, to be accounted for by the pressure upon, and consequent irritability of, the stomach. Dyspnea, due to pressure upwards on the diaphragm, may be present and may be a prominent symptom. The growth of the tumor may even be so extensive as to press on the common duct, causing jaundice and introducing a serious complication, making the diagnosis still more difficult. Obstruction of the bowels may supervene. Neuralgia of the legs, due to pressure upon the lumbar plexus, and, in fact, almost any symptom that might be caused by pressure on important organs may be present in the late stages.

In the case at hand, a previous history was given of injury, which is often a prominent factor in the causation of lipomata elsewhere in the body, and is of interest on that account.

A diagnosis of these growths is difficult, and they are ordinarily mistaken for various other conditions. Probably the most frequent error

has been to mistake them for ovarian tumors. This can be explained by the fact that the growths closely simulate the fluctuation of a cyst-adenoma of the ovary. This evidence has been so positive to some surgeons that even after a dry puncture an exploration was necessary to convince them of the error of their diagnosis.

These cases are also often confounded with retroperitoneal sarcomata, but the latter condition grows more rapidly, and cachexia is, as a rule, a more marked symptom.

From the fact that this condition has been variously mistaken for hydronephrosis, distended gall-bladder, pancreatitis, and mesenteric cysts, it will be seen that a differential diagnosis is difficult, often impossible, and the condition is one which exploration alone will clear up.

The treatment is necessarily surgical. Various methods of approach are advocated for the removal of the growth. Some surgeons recommend a lateral incision in the flank, but here the exposure is not the best, and the anterior median is mostly preferred. Others advocate the slipping back of the peritoneum, but this is more often impossible, owing to firm and extensive adhesions. With the anterior median incision, opening of the peritoneal cavity and packing off the intestines, a clear field is obtained, and the extent of the tumor can be accurately determined.

The removal of these large tumors is often complicated, and resection of the intestine may be necessary, due to the fact that the mesenteric blood-vessels are frequently injured in the separation of adhesions, and the area of intestine so deprived of its nutrition must then be removed at once, or gangrene will supervene. The tumor is frequently adherent to the vena cava, and much care has to be exercised not to injure this vessel. Nephrectomy may be necessary in those cases of perirenal origin where the kidney is so imbedded in the substance of the tumor as to make freeing it impossible.

#### REPORT OF CASE

E. V., widow, aged 59; nativity, Switzerland. Presented for examination on June 11, 1909.

Family history, negative. Had five children, the oldest 35, the youngest 30. Menopause at 50 and no flowing since. Twenty years before, she had quite a severe fall, and since that time has been subject to a good deal of backache. For three years she has been troubled with frequent micturition, having to arise to urinate two to three times every night and as often as every half-hour during the day. Increasing and marked constipation, with occasional quite sharp,

cramp-like abdominal pains, had been frequent. At no time has she passed any blood or mucus per rectum, neither had she noticed any blood in the urine.

For the past eight months she had noticed that her abdomen was growing considerably larger. Three months previously she had consulted her family physician and had been told that she had a "floating tumor," which should be removed. During these eight months she lost twenty pounds, and for the last year had been "spitting" up her food and fluids, and had observed that this was particularly prone to occur if she was lying on her right side.

Physical examination showed a well-nourished woman in spite of the loss of twenty pounds. The apex beat was displaced upward to the nipple line. Gurgling and splashing were to be heard over the stomach area. A large, indefinite, semifluctuating mass was to be felt in the abdomen, the exact origin of which was not determined. It seemed more prominent on the right side than on the left, and extended from the right costal arch to the pelvis. Bimanual examination of the pelvis was negative. Urinary examination gave specific gravity of 1020, alkaline. No albumin; no sugar. Blood normal.

A tentative diagnosis of ovarian tumor was made, and exploration advised and accepted.

Operation, June 15, 1909, by Dr. W. J. Mayo. The abdomen was opened through a median incision. All of the intestines, including the transverse colon, were found down in the pelvis, while the stomach and liver were crowded up against the diaphragm. The mass was seen to be retroperitoneal, presenting largely through the gastrocolic omentum, making a tumor a little larger than a full-term pregnancy. Fat lobules showed clearly through the peritoneum, and it could be made out that the tumor had its origin in the left kidney region extending through the mesentery well across into the right side.

The posterior layer of peritoneum was incised, and the tumor seen to be non-encapsulated. It was carefully shelled out, the greater part coming out in bulk, but much of it being taken out piecemeal. The kidney was not molested as it was not densely adherent to the growth. Comparatively little bleeding was encountered, and that was controlled by clamps and afterward by subsequent ligation. The posterior layer of peritoneum was then drawn together, and the median incision closed in the usual manner. No drainage was provided. The tumor weighed nineteen and three-fourths pounds. Recovery was uneventful, the patient returning to her home in three weeks.



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SEPTEMBER 1, 1909

### PROBLEMS IN PSYCHOTHERAPY

Gossip over the grape-vine route brings information about the much-heralded Emanuel movement that was so high in the air last year. The general supposition is that some one had taken a large Christian Science pill in the evening and a large Emanuel movement was the result in the morning.

If this is to be the end of one of the so-called branches of psychotherapy what will the critics say?

Rumor says that the wives of the two promoters of Boston's latest fad are in sanatoria, and the prime mover himself is the victim of a nervous breakdown. How can such things be if their theories have any virtue? The great obstacle in the path of success of new methods of treatment is that the original claim becomes a rolling snowball, which gathers about it everything within reach until it becomes so huge that it wrecks itself at the crisis of its momentum. The bursting of the ball startles no one except its originator, and the public wait idly for the next sensation to possess them.

Dowieism collapsed when its dimensions outgrew its founder. Its foundation was weak, and it depended too much for support upon a public band of vacillating neurotics. If congress had remained in session over the tariff question much longer Eddyism might have slipped out of the public grasp. Any absorbing question is hurtful to new theories and may sidetrack a powerful organization. Christian Science is even now fighting for its foothold in spite of its many advertising media. The people who profess to believe in it are relaxing their hold on its health-preserving quality. The majority of them gladly return to their former complaining chain of fears while holding on to the pseudoreligion that they believe is newer and better than the old. When Mrs. Eddy permitted them to speak of their feelings and to occasionally consult a surgeon or to observe the laws regulating communicable diseases there was much secret rejoicing throughout the land.

The theories of psychotherapy still remain fundamentally intact and are as much used as they were among the early Egyptians in 4,000 B. C. The methods of administration are more refined, and the application of the theories are more scientific now than ever before. The public and the medical profession have learned much from the discussions that have occupied the columns of the lay and the medical press.

The profession is less inclined to look upon psychotherapy as an all-absorbing branch of medicine and believes that there are more important questions waiting solution, notably the cure of organic disease and the betterment in methods of diagnosis.

The application of psychotherapy is not confined to nervous and mental diseases, but can be as successfully employed in buoying up the courage and disciplining the sufferer with diseases of remote organs. Psychotherapy will always have a place in the treatment of disease, but it should be placed before the student in its proper light during student days, in order that he may develop or acquire an attitude of mind that will enable him to study human nature and thus apply his suggestions wisely and scientifically. In a room in the Massachusetts General Hospital hangs a chart bearing a classification that is interesting, instructive, and amusing. To which class do you belong?

Solid	Semisolid	Colloid	Sloppy	Gaseous
James	Dubois	Hudson	Wood	Mary B. Eddy
Brener-Freud	Prince	Dresser	Trine	
Oppenheim	Sidis	Worcester		
Tastrow	Bernheim			
Walton	Munsterberg			
Barker	Schofield			
Putnam				



## PAY PATIENTS IN MUNICIPAL HOSPITALS

The admitting of others than strictly charity patients into the City and County Hospital of St. Paul has been the subject of bitter controversy between Mayor Lawler, City Physician Ancker, and the Board of Control.

The Mayor believes that the City Hospital should not admit any patient who is able to pay for care and treatment elsewhere; and unless the mayor's wishes are accepted he threatens to imperil the appropriations usually made for the institution.

On the other hand Dr. Ancker believes that pay patients should be admitted even though they are able to pay a moderate fee. He also believes that any other person who desires high-class accommodations and is willing and able to pay well for such service should also be entitled to the privilege. His position is upheld by the daily press of Saint Paul in their editorial columns.

The question is a large and far-reaching one and applies to hospitals in all municipalities. The small hospitals in small cities and towns are as much interested as the larger institutions, and the ultimate outcome of the controversy will be eagerly watched.

The Saint Paul City and County Hospital has grown to immense proportions, and has been able through its pay patients to turn into the general fund about \$40,000. This is a strong argument in favor of admitting pay patients, provided the service to the poor is not affected. Anyone who is familiar with hospital work knows that the same service is rendered to pay and charity patients alike, and that the gain to the nursing force is greatly increased by contact with all classes of people. Nurses who go out into private homes who have been trained only to care for the sick poor lack a certain refinement that can be acquired only by intimate association with people who are acquainted with culture, however humble may be their position in society.

The man who pays his bills is entitled to consideration, but in a hospital where the poor are cared for he receives no more care than other patients. He may think because he is a taxpayer that he may be entitled to more attention, but he soon learns that all classes are treated alike. Many of those who feel a pride in the up-building of a municipal hospital would like to enjoy its benefits. So they should, but they need not deprive others who are not taxpayers from enjoying the same privilege.

General hospitals do not as a rule make money, but are dependent on contributions from one source or another. Philanthropists and hospital workers do not go into hospital work with the idea of getting rich. It has been demonstrated many times over that it costs more to maintain a ward case than the amount usually charged. Hospitals are not built out of funds received from patients, but from private sources. For this reason alone no objection should be made to the admission of pay patients. All general or so-called private hospitals do a great deal of charity work that the public do not hear about, and turn about is no more than fair play.

In large cities there are hospitals that object to the admission of pay patients in a city hospital on the grounds that this sort of competition is a disadvantage commercially. The argument is not good, however, for efficiency and good management will bring pay patients into the private or general hospital rather than into one under municipal control.

Unjust discrimination on the part of either kind of hospital relating to the admission of patients is occasionally a just criticism, but this occurs only on rare occasions.

In Minneapolis the City Hospital admitted pay patients for a time, but on account of the lack of room for the care of the city poor, pay patients were denied admission.

Emergency and accident cases are not infrequently rushed into every city hospital when identification of individuals has not been possible at the moment, and it would be the height of folly and inhumanity to deny them admission.

No one will dispute the advisability in the case of city hospital authorities of admitting the class of cases just cited. The hospital belongs to the people, and therefore the people are entitled to admission under such circumstances.

In the smaller towns the question of admissions is more easily solved, as the maintenance of a small hospital depends upon all classes for pay.

The new University Hospital feels obliged to adhere to a certain fixed principle, i. e., the admission of those only who cannot afford to pay for service anywhere.

As this hospital is to admit patients from all parts of the state and is to be known as a clinical or teaching hospital or part of a great free educational institution, it cannot do otherwise.

It is to be hoped that Mayor Lawler will not adopt an unyielding attitude and thus make it difficult for the City and County Hospital to maintain its high standard of efficiency and prominence.

## REPORTS OF SOCIETIES

### MIDSUMMER MEETING OF THE ABERDEEN AND WATERTOWN DISTRICT MEDICAL SOCIETIES OF SOUTH DAKOTA

At Lake Kampeska on August 10th each Society convened in separate session for the transaction of routine business.

Later a joint session was held and the following program rendered: "Anatomy and Relations of the Stomach and Intestines," Dr. H. J. Bartron, Watertown; "Intestinal Surgery," Dr. C. E. McCauley, Aberdeen; "Gastric and Duodenal Ulcers," Dr. Arthur T. Mann, Minneapolis.

All the subjects were handled in an able and practical manner.

Dr. Mann's paper was of special interest to the general practitioner, as well as to the surgeon.

The presence of the physician's wives at the luncheon, served at the Club House, and in the afternoon outing added no small amount to the pleasure of the day.

At 4 P. M. we boarded the launch for a trip around the lake stopping at Stony Point, leaving those who desired to fish and bathe.

On our return to the Club House we anxiously waited the announcement of the six o'clock meal.

The interest in the meeting and the social feeling which prevailed were the means of a delightful day for everyone in attendance.

J. B. VAUGHN, M. D.,

Secretary of the Watertown Dist. Med. Society.

## NEWS ITEMS

Dr. Robert Turnbull has moved from Fosston to Karlstad.

Dr. John L. Delmore, State University, '09, has located at Roseau.

Dr. W. J. Kennedy has moved from Enderlin, N. D., to Grafton, N. D.

Dr. O. Th. Sherping, of Fergus Falls, has returned from a trip to Europe.

Dr. E. C. Rebman, a 1909 graduate of Northwestern, has located at Truman.

Dr. John Hetherington, of Larimore, N. D., has located at Park River, N. D.

Dr. Frank H. Allen, who formerly practiced in Staples, will return and take Dr. Cameron's practice.

Dr. Carl D. Kolset, of Wendell, was married last month to Miss Mary Ellingson of the same place.

Dr. C. A. Boyd, of Redwood Falls, has sold his practice to Dr. A. G. Chadborn, of Kramer, N. D.

Dr. B. R. Karn, of Ortonville, was married last month to Miss Bessie Cliff, of the same place.

Dr. E. B. Taylor, of Huron, S. D., was married last month to Miss Dora Wheeler, of Slayton, Minn.

A new thing under the sun is a farmer's hospital, and such a hospital is to be opened at Hetland, S. D.

Dr. J. P. Riggs, of Hurdsfield, N. D., has sold his practice to Dr. E. M. Freese, and will soon move to Illinois.

The Rapid City (S. D.) Hospital was opened last month under the management of Drs. Robinson and Ratte.

Dr. W. E. Harwood, of the Fabiola Hospital, of Eveleth, will go abroad next month for special study.

Dr. W. A. Chamberlain, who has been located at Waseca for a number of years, has moved to Seattle, Washington.

Dr. L. M. Harding has been transferred from Leech Lake to Canton, S. D., to continue his work among the Indians.

Dr. Mary Chapman Ghostley, Hamline, '09, has become a member of the staff of the M. & O. Hospital of Blackduck.

Dr. Fred L. Adair, of Minneapolis, has returned from a year's special work, mainly at Berlin, in obstetrics and gynecology.

Dr. G. Schmidt, of Sleepy Eye, will soon open a hospital, a private residence having been rented and is now undergoing refitting for that purpose.

The plans for the new \$30,000 hospital building for Mandan, N. D., have been drawn, and the site has been selected. Work on the building will be pushed.

Dr. Edward Sugg, of Danville, Pa., has been appointed assistant physician at the St. Peter State Hospital to succeed Dr. H. T. Ground, who recently resigned.

Dr. H. H. Kimball, of Minneapolis, has gone to Europe as a delegate of the A. M. A. to the International Medical Congress, which holds its triennial session this month at Budapest.

Dr. W. G. Cameron of Staples, has gone to Chicago for a course in eye, ear, nose and throat work, and after a course of study in Chicago and the East, he will locate on the Pacific coast.

Dr. S. C. Schmitt, of Blue Earth, will move to Mankato, and enter into partnership with his brother Dr. A. F. Schmitt. Two other brothers of the doctors form a law firm at Mankato.

A new hospital with a new hospital building has been opened in Chisholm, with Dr. A. B. Kirk at its head, with Drs. E. H. Nelson, D. C. Loughberry, K. A. Murray, and R. D. Graham as associates.

Dr. W. S. Butterbaugh, of Edgemont, S. D., has sold his practice to Dr. F. A. Van Buren, formerly of Lead, S. D. Dr. Butterbaugh goes to Lincoln, Neb., to become a professor in Union College.

Dr. T. V. Sheehan, of Franklin, has gone to the Pacific Coast, and will probably locate in Seattle. A farewell reception was given Dr. Sheehan at the town hall of Chisholm, presided over by Dr. Cole, his rival practitioner in the place.

#### DR. McCORMACK COMING

Dr. McCormack, the national organizer of the A. M. A., will be in Minnesota in November, and will speak in the following places: Brainerd, Monday, Nov. 8th; Duluth, Tuesday, Nov. 9th; Mankato, Wednesday, Nov. 10th; Rochester, Thursday, Nov. 11th; Austin, Friday, Nov. 12th; Winona, Saturday, Nov. 13th. Dr. McCormack speaks in the afternoon of each day to the physicians, and in the evening to a general audience. He is a forceful and a delightful speaker. The secretaries of county societies and the council are urged to make these meetings a great success by getting large audiences. It is hoped that the Minnesota Valley Association may call their regular December meeting on November 10th, when Dr. McCormack will be in Mankato, and thus give him a fine audience. The state tuberculosis exhibit will be at Austin when Dr. McCormack is there, and this work will thus have the doctor's co-operation, which he is always anxious to extend.

#### PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-

store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

#### PRACTICE FOR SALE

A fine location in the Park Region of Minnesota, less than 200 miles from the Twin Cities, town of 450. Good territory; good collections; will sell to responsible man for \$3,000, including a fine residence property. Reason for selling, am going west on account of health. Do not write unless able to buy. Address C. A., care of this office.

#### HOSPITAL FOR RENT

A completely equipped and furnished hospital in town of 3,500. Good paying business for a man and wife; patronized by all local physicians. Present matron wishes to retire. Address C. M., care of this office.

#### PHYSICIAN WANTED

Wanted at once, a physician to locate in a city of 1,650 in south-central Minnesota. Farming community. Thickly settled. One who can speak Bohemian, or Bohemian and German preferred. Population, Bohemians, Germans, Irish, Americans, and Polish. Office rooms over drug-store free. Centrally located. Business established twenty years. Address B. M., care of this office.

#### LOCATION WANTED

A German physician desires to locate in a German settlement, preferably in a wooded district. Address H. C., care of this office.

#### PRACTICE FOR SALE

A \$3,000 unopposed practice in a small South Dakota town. Collections, 95 per cent. I offer my practice, a good 7-room house, with barn, city water, lawn and fruit trees, etc., for \$2,000; part cash and balance on time. Examiner for two lodges and six insurance companies. Am going into the hospital business. Address S. C., care of this office.

#### OFFICES FOR RENT

Rooms 216, 217 and 218 Masonic Temple, Grand Forks, N. D., for sublet, to January 1st; all furnished and up to date. Party must be acceptable to Mr. Walker, manager of "The Temple." Phone 8009 T. C. or address J. E. Engstad, Grand Forks, N. D.

#### STOLEN

An O'Dwyer intubating set (Ermold & Co.) in a metal case was recently stolen from my office. Will any physician to whom it may be offered for sale kindly notify Dr. Emanuel Oberg, 221 Cedar Ave., Minneapolis.

*Analytical Work*—Urinalysis and general analytical work solicited. We do dependable mining assay work. Confidential service. Reasonable prices. Samples called for and delivered promptly in either city. Como Drug Co., Moos & Grant, Prescription Specialists. Phones: N. W., East 9381; T.-S., 16449. Minneapolis, Minn.

*Physicians' Attention.*—Drug-stores on easy payments, etc. Drug-store positions in United States or Canada. F. V. Kniest, Omaha, Nebr.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## THE PURIFICATION OF DRINKING WATER\*

GUSTAV F. RUEDIGER, M. D.

Director of the State Public Health Laboratory, University of North Dakota

GRAND FORKS, NORTH DAKOTA

You are all more or less familiar with the subject of water purification, but on account of the great importance of this subject in the state of North Dakota it may be worth while to review the more recent advances that have been made along this line. I shall also endeavor to point out just what may reasonably be expected from each process of purification when operated under favorable conditions. The subject naturally divides itself into two great classes as follows:

1. Self-purification, or natural purification through the agencies at work in nature.
2. Artificial purification, or purification by means of processes invented by man and controlled by man.

### SELF-PURIFICATION OF WATER

It is quite commonly believed by the laity, and by many professional men, that the self-purification of streams is a very rapid, constant, and perfectly reliable process; and that the self-purification of quiet water is less rapid and less constant and hence less reliable. Careful investigations, made recently, seem to indicate that the reverse is generally the case; that is, there is a more rapid and constant purification of perfectly quiet lake water that has been polluted by sewage than of sewage-polluted river water.

Thus at Burlington, Vt., the water was formerly drawn out of Lake Champlain only one-half mile from the outlet of the main sewer. No serious consequences were observed, and a study of the water at the intake-pipe, made by Prof. Sedgwick, showed no evidence of sewage-contamination. This is explained by the fact that sedimentation is not interfered with in the quiet lake water, and that there is a very great dilution of the pollution material owing to the large volume of water.

In the case of rivers and brooks we meet with an entirely different set of conditions. The dilution is generally not so great as in the lakes, and sedimentation is not permitted to go on uninterruptedly owing to the constant agitation of the water. During the last year Dr. Pratt and I have carried out a number of experiments to determine how much real purification there is of the water of Red Lake river from the time it is polluted at Crookston, Minnesota, until it reaches Grand Forks, N. D., a distance of about 90 miles along the river. Twice I have gone to Crookston and floated back to Grand Forks in a row boat, each time floating four dialysers alongside of the boat. Each trip down the river takes about fifty hours. In these dialysers was placed a definite quantity of river water and a known number of typhoid bacilli, and

\*Read before the North Dakota State Medical Association, Fargo, N. D., May 11, 1909.

the object of the experiments was to determine what per cent of the typhoid bacilli were alive at the end of the journey. The results of the experiment differ somewhat, as might be expected. In one experiment less than one per cent of the bacteria survived, whereas in the other experiment about four per cent of them remained alive. This proves that at least 40,000 of these organisms out of every million thrown into the river at Crookston may reach Grand Forks in a living state. I am not using large numbers for the sake of argument, for it has been shown that one typhoid fever patient may discharge five billion typhoid bacilli during twenty-four hours. Four per cent of this figure is two hundred million. These experiments were, of course, performed when there was no ice on the river. It is impossible to float the dialysers down from Crookston during the winter months, but we attacked this problem in a different way. We inoculated some river water with typhoid bacilli and placed this in several dialysers and then lowered the latter into the river through a hole in the ice. The dialysers were enclosed in tin pails which had several dozen perforations to permit a free passage of water through the pails. The pails were lowered about four feet from the surface, the thickness of the ice being about three feet. At the end of three days one dialyser was taken out, and it was found that 31 per cent of the typhoid bacilli in it were still alive. At the end of one week nineteen per cent were still alive in the other dialyser, and 2.4 per cent survived two weeks. This, you will see, indicates a very slow self-purification of the river water under the ice, as compared with that when the river is open.

Another line of investigation which Dr. Pratt and I have been carrying on is to make bacteriological analyses of the water which reaches Grand Forks in Red Lake river every four hours for periods of twenty-four hours. The results of these examinations are interesting and instructive because they show that the sewage comes down to Grand Forks during the winter months in large waves, corresponding to the time of day when the greatest amount of it enters the river at Crookston, i. e., during the early part of the forenoon. Between 12 o'clock midnight, and 8 o'clock, a. m., very little sewage enters the river at Crookston, and we find a corresponding period at Grand Forks when the water is relatively free from pollution. The following analyses made in March, 1909, illustrates this point:

Time of collecting water sample	No. of colon bacilli (from bowel discharges) per c.c. of water.
8 a. m.....	13
2 p. m.....	23
8 p. m.....	16
2 a. m.....	5
<hr/>	
Average .....	14¼

This series of analyses was repeated several times during the winter, and similar results were obtained each time. These figures are true only for the winter months when the river is covered with ice. When the river is open the number of colon bacilli reaching Grand Forks is much smaller, as is shown by the following table, taken from a series of analyses made in the middle of June:

Time of collecting water sample	No. of colon bacilli (from bowel discharges) per c.c. of water.
8 a. m.....	1
2 p. m.....	3
8 p. m.....	7
2 a. m.....	3
<hr/>	
Average .....	3½

We notice that at this time the water contained only one-quarter as many colon bacilli as it did when the river was covered with ice. The amount of water in the river was about one and one-half times as large in June as it was in March, and therefore the total number of colon bacilli reaching Grand Forks in the Red Lake river when covered with ice is two and six-tenths times as large as the number reaching it when the weather is warm and the river is open.

Bacteriological analyses of the water collected a mile below the outlet of the Crookston sewer show that there the water contains upwards of twenty colon bacilli per cubic centimeter during the forenoon, and as low as three per c.c. at five o'clock in the morning, before the people get up and use the sewers. These analyses show clearly that there is very little self-purification during the winter months, and a considerable degree of purification during the summer months, in the water of Red Lake river during its flow from Crookston, Minn., to Grand Forks, N. D. This also shows how extremely important it is to keep our streams free from pollution if their waters are to be used for drinking purposes.

## ARTIFICIAL PURIFICATION

The processes of artificial purification of water may be roughly divided into four classes as follows:

1. Sedimentation, either with or without the use of coagulants.
2. Filtration through sand by means of the slow filters or by means of rapid filters, also called "mechanical filters."
3. Treatment by chemicals.
4. Boiling and distillation.

1. Sedimentation alone in large reservoirs brings about a very decided degree of purification in some waters. As a general statement we may say that the efficiency of sedimentation depends in a large measure upon the coarseness of the suspended matter. The coarser the particles in suspension the more rapid and complete will be the sedimentation. At St. Louis, for instance, where Missouri river water is used the sedimentation is comparatively rapid and as high as 96.5 per cent of the bacteria may be removed in the course of forty-eight hours storage. In the case of Ohio river water at Cincinnati about 75 per cent of the bacteria were removed by three days' sedimentation. On the other hand, the experiments with Mississippi river water at New Orleans gave practically no reduction in the bacterial content in twelve to seventy-two hours' sedimentation.

In all instances sedimentation can be greatly enhanced by the use of a coagulant, such as sulphate of alumina or sulphate of iron and lime. The coagulant is generally added to the water just as it flows into the settling tank. With the aid of these coagulants from 50 to 90 per cent of the bacteria can be removed in two to six hours sedimentation, and with longer periods of subsidence as high as 98 to 99.8 per cent of the bacteria can be removed. The coagulant also removes from 70 to 90 per cent of the coloring matter and an equally high per cent of suspended matter. The coagulant forms a gelatinous precipitate of aluminum hydrate in the one case and ferric hydrate in the other, which, as it settles to the bottom, carries the suspended matter and bacteria down with it. In some cities sedimentation with coagulation is depended upon to purify quite extensively polluted waters, with very good results. In most cases, however, sedimentation with coagulation is used only as a preliminary treatment preparatory to filtration through sand. Plain sedimentation without coagulation is not to be trusted where the water is polluted with sewage.

2. Slow sand filtration dates back to 1829 when Mr. James Simpson established the first filter for the Chelsea Water Company of London. In these filters the sand-bed is constructed in large water-tight reservoirs, either open or covered. On the bottom of the reservoir is placed a system of drains, then layers of crushed stone and gravel of decreasing size, and in this is placed a layer of sand two to five feet in thickness. The water is allowed to flow on the beds by gravity, or is pumped on, passes through the sand and underdrains to a collecting-well, and thence is pumped to the consumer. As the water passes through the sand it meets with some resistance, which is overcome by having a carefully regulated depth of water on the sand-bed. The resistance gradually increases as fine particles of silt and clay are deposited on the sand, but the rate of filtration is kept as nearly uniform as possible by increasing the depth of water on the surface. When this depth of water (the working head) has reached a certain fixed limit of three to four feet, the water is shut off, the filter is drained, and the thin layer of clogged sand on the surface is removed. When the layer of sand has been reduced in thickness to a certain fixed limit of about two feet, by repeated removal of thin layers of clogged sand, clean sand is added to restore the filter to its original depth. The clogged sand may be washed and replaced at intervals, or it may be discarded and a fresh supply obtained from a suitable sand-pit. The rate of filtration should be kept quite uniform for each filter by varying the head according to the resistance. It usually amounts to from two to six million gallons per acre of sand-bed per day. In Germany the fixed maximum rate is about 2.6 million gallons per acre per day. In this country it is frequently somewhat higher.

A properly constructed and carefully operated slow sand-filter removes from 98 to 99.8 per cent of the bacteria and nearly all of the coarse particles in suspension. The percentage of removal is greatest when the bacterial content of the raw water is high, and smallest when it is low. The total number of bacteria per cubic centimeter of filtered water, however, may vary directly with the bacterial content of the raw water. As a rule the filtered water should contain less than 100 bacteria per cubic centimeter. The filter also removes some of the color from the water and as high as 50 per cent of the organic matter, which is in solution. If very fine particles of clay and silt are present they some-



times are not entirely removed without the use of a coagulant. These filters are not mere mechanical strainers, but a certain amount of oxidation of organic matter is brought about by the organic matter that accumulates on the sand particles in the body of the filter-bed. It is for this reason that the filters increase in efficiency with age. Another important factor in the working of these filters is the thin layer of inorganic slime and mud which accumulates on the surface. When this is removed by the process of "scraping" the bacterial efficiency of the filter may be materially reduced for a period of twelve to twenty-four hours. For this reason the filter should be started very slowly after scraping, or the water which passes during the first twelve hours may be discarded. In some instances the sand-bed is filled from below with filtered water, and then the raw water is allowed to flow on the surface and stand there for a few hours before filtration is again started.

The rapid sand-filters, also called "mechanical filters," are similar to the slow filters just described in that the filtering material consists of a bed of sand three to four feet in thickness. They differ from the foregoing, however, in very fundamental points of construction and operation. First, the water is always treated with a coagulant and allowed to undergo sedimentation before it flows on to the sand-bed. This removes a large part of the suspended matter and bacteria and makes it possible to use a much higher rate of filtration with satisfactory results. The second point of difference, therefore, is the high rate of filtration used with the mechanical filter, being from 100 to 125 million gallons per acre per day. This high velocity is obtained by employing a head as high as ten to twelve feet, which also has the effect of prolonging the "run" before washing of the sand is necessary. The "run" is only twenty-four hours or less, after which the sand is washed by reversing the current and forcing filtered water upward through the sand under violent agitation of the latter by means of mechanical agitators or compressed air. In this process of washing, which requires only ten to fifteen minutes, it is not necessary to remove the sand from the bed, and we have here another point of difference from the slow filters.

In the rapid filters no deposit of organic "living" slime forms on the particles of sand in the body of the filter, and hence there is no oxidation of organic matter. The bacterial efficiency of these filters is, however, very good, owing to

the fact that much of the suspended matter and bacterial content are removed by the coagulation, and also on account of the additional fact that some of the gelatinous precipitate which is formed is permitted to pass over to the sand-bed and form a slimy deposit on its surface. This deposit is very effective in holding back both bacteria and fine particles of clay and silt, and forms a substitute for the organic slime on the sand grains and on the surface of the ordinary filters.

Filters of this description are being installed in many cities of the Middle West, notably at Harrisburg, Pa., Cincinnati, Ohio, Louisville, Ky., Little Falls, N. J., and many other places. The bacterial efficiency is almost but not quite as good as with the slow sand filter. Clark\* made a collection of data bearing on this point from thirteen experimental filters and two large slow filters. These records showed that the slow sand-filters had a bacterial efficiency of over 99 per cent in 42 per cent of the tests, of over 98 per cent in 64 per cent of the tests, and below 95 per cent in 13 per cent of the tests; while the mechanical filters had an efficiency of over 99 per cent in 32 per cent of the tests, of over 98 per cent in 49 per cent of the tests and less than 95 per cent in 28 per cent of the tests. Local conditions will have to determine largely which style of filter shall be installed. If the water is very turbid and highly colored it is necessary to use a coagulant in order to get a perfectly clear effluent. Another thing that must be borne in mind is the rapid clogging of the sand if we attempt to purify very turbid water with a slow sand-filter and without the use of a coagulant. Where a coagulant has to be used to get a clear effluent the rapid filters are somewhat less difficult to operate, are somewhat cheaper, and give practically as good a quality of filtered water as the slow filters.

Of fundamental importance to the community installing a water-filter is the hygienic efficiency of the filter. Do statistics prove that the mortality from typhoid fever and other intestinal diseases is sufficiently reduced after the installation of a filter to warrant the expense incurred by its construction and operation? This question is answered very decisively in the affirmative by the vital statistics of such cities as Lawrence, Mass., and Albany, N. Y., as is shown in the following tables:

\*Journal A. M. A., 1907; Vol. XLIX, p. 764.

TABLE I

Vital Statistics, Lawrence, Mass., 1888-1906.\*

Typhoid death-rate  
100,000 of population.

Year	
1888	120.0
1889	137.5
1890	133.3
1891	122.0
1892	111.1

Filter constructed 1892-93.

1893	86.6
1894	50.0
1895	30.7
1896	18.6
1897	16.2
1898	18.8
1899	33.1
1900	17.6
1901	18.5
1902	16.5
1903	31.9
1904	14.1
1905	19.0
1906	19.6

TABLE II

Typhoid fever death-rate per 100,000 population in Albany and neighboring cities:

Albany	12
Cahoes	54
Troy	43
Watervleit	42
Schenectady	20
Rennselaer	50

Albany is the only city in this list that has a filter.

A few words should also be said about the various household filters. The majority of these are far worse than nothing, because they do not remove any of the bacteria, but, on the contrary, furnish a suitable medium in which the bacteria can multiply. The Berkefeld filters and the Chamberland-Pasteur filters may do effective service, but they must be thoroughly cleaned and boiled every three to four days. If this is neglected they also may in time furnish a culture-medium for the bacteria and pollute the water rather than purify it.

Various chemicals have been used to disinfect wells, but none of these are used extensively, and it is questionable whether any of them do much good. In India it has been quite a com-

mon practice to add potassium permanganate to the water in the well in sufficient quantity to impart to it a reddish color that lasts about half an hour. Another method consists in the addition of 0.5 gram of "chlorinated soda" to every 100 liters of water and neutralizing the excess of chlorine by the addition of half that amount of sodium sulphite several hours later.

A more promising method, from the theoretical standpoint, than either of these is by the use of ozone, whereby much of the organic matter can be oxidized. Many experiments have been performed along this line, and in some instances almost complete sterility of the water has been obtained. It has been found, however, that the process is not very reliable because the amount of ozone generated by the generators is dependent largely upon conditions which are not under our control. The process also is rather expensive, and it is necessary to subject the water to filtration before it is treated with ozone.

A plant of this kind was constructed at Lindsay, Ontario, last fall, but no authentic reports in regard to its efficiency have, as yet, been published.

The following description of the process was sent to me in a personal communication by Mr. R. M. Leggett, the electrical engineer in charge of the construction:

The process consists first in producing ozone gas by means of the Bridge perforated electrode. An alternating current of 1,040 volts, 60 cycles is stepped up to 8,000 volts in a transformer. The ozonizers, or electrodes, are aluminum sheets filled with small perforations, each one of which becomes filled with the blue flame of the silent discharge, in the form of hollow cones of light. Normal atmospheric air is drawn through these perforations, and the oxygen is converted into ozone, the production being about 80 grams per K. W. of electricity consumed.

The water to be treated is first passed under normal head through rough sand-filters for the removal of the coarser suspended matter, then falls about twenty-nine feet into a sterilizing well and in doing so passes the open ends of pipes leading into the ozonizers. This creates sufficient suction to draw the gas into the water in its downward rush, and then the gas-charged water rises to normal level through baffle-plates covered with coarse gravel, and it is during this upward passage with the ozone gas that the intimate contact requisite for complete sterilization takes place. The sterilizing well is open to the atmosphere, and carbonic acid gas due to oxidation and any excess ozone escape. The presence of ozone in the air above the water in this well indicates complete oxidation.

In this system the ozone is drawn into the water by the suction action of the water itself, thereby eliminating all mechanical devices, such as gas-compressors, etc., necessary in other systems, which add to the difficulties and expense of the process.

\*Clark, Jour. A. M. A., 1907; Vol. XLIX, p. 764.

In closing I wish to emphasize the fact that the process of water purification by means of ozone is still in the experimental stage, and hence no definite conclusions can be drawn at this time. The ozonization plant at Lindsay, Ontario, has not yet been approved by the

Provincial Board of Health, and I am informed by Dr. R. O. Beard, of the Pure Water Commission of Minneapolis, that the examinations which have thus far been made indicate that the water is inefficiently treated and is far from being sterile.

## THE WATER-SUPPLY OF THE CITY OF MINNEAPOLIS\*

By RICHARD OLDING BEARD, M. D.

Director of the Department of Physiology and Pharmacology, University of Minnesota

MINNEAPOLIS

The organization of the Pure Water Commission of the City of Minneapolis, has been a matter of note, because it is to be hoped that it has established something of a precedent for the study and determination of scientific and economic questions by deliberative, non-partisan and non-political bodies, assisted by expert authority.

The selection of the members of the commission by a number of public societies and clubs produced a composite body of versatile and fairly well-balanced qualities. The practical unanimity of conclusion at which this body, so constituted, arrived is testimony to the merit of its employment for the consideration of so important a question as that of the public water-supply. Seventeen, out of twenty-one members, were perfectly agreed in its findings.

The Commission had to initiate its methods of procedure. It had no precedents to guide it. It appointed, first, committees for the special presentation of each proposed method of supply; while your representative, who did not serve upon any of these committees, was selected as a special committeeman upon statistics and information bearing upon all projects.

The Commission held seventeen open meetings, at which the several methods of securing pure water for the City of Minneapolis were discussed by all comers and by a large number of invited experts. Following these meetings, it held some nine executive and deliberative sessions, and determining, at length, to avail itself of the experience of other cities, it sent a committee of five members, upon which it was the privilege of your representative to serve as chairman, to investigate the principal municipal water-supplies of the country.

It also appointed a committee of the same

number to visit and investigate the possibilities of a water-supply from Mille Lacs. Only one member of this committee, Mr. E. C. Gale, availed himself of this opportunity, but he presented an able report, based upon a large amount of evidence, to the Commission. Both committees were accompanied and ably served by one and the same consulting engineer, Professor J. J. Flather, of the University of Minnesota, who proved of invaluable assistance.

I shall not attempt to give you in detail the reports of these committees, or the final report of the Commission to the Council. These documents have been printed in pamphlet form by the City Council and are available to the interested reader.

It is a luminous commentary upon the public spirit which inspires the newspaper press of the City of Minneapolis, that while it has published columns of sensational matter, traversing and travestying this important public question, it has not found it worth while to publish, for the benefit of the public, the reports of these investigations in full.

It will be of interest, perhaps, to the Society to discuss briefly the nature of the problem with which the Commission has had to deal, and with which other communities have dealt or are dealing, and to review the conclusions to which, in the study of this problem, the Commission has come.

To those among us who have come to an appreciation of the magnitude of this pure water problem, it is not remarkable to find that a notable class of scientific men in America has already devoted itself to its exclusive pursuit.

### THE QUALITIES OF POTABLE WATER

Manifold are the qualities which must be considered in the study of the fitness of a public water-supply.

\*Read before the Hennepin County Medical Society, Sept. 6, 1909.



(1) Color is an important item and one of the most difficult to treat. Color qualities which are due to the agents of turbidity are more or less readily removable, but those which are in the nature of vegetable stain cannot be removed even by ordinary filtration. It follows that "swamp-tea", so-called, is one of the most difficult of waters to treat.

(2) Turbidity is not merely a matter of degree, but of very variant origin. The agents of turbidity are not always precipitable through even prolonged storage. Sand, gravel or loam, even in large quantities, may be easily disposed of, and some forms of clay, as found in the Missouri, assist in the sedimentation of bacteria. But the fine silt and coal-dust of the Schuylkill, or of the west branch of the Susquehanna River remain indefinitely in suspension; while the fine red clay of the Potomac is insusceptible of removal, as are its effects in color, by any number of sand filtrations.

(3) No quality of water is more variable than its degree of hardness. What would be termed a soft water in the West is regarded as of notable hardness in the East. The softest water of Minnesota gives some sixty parts per million of total hardness; while that of the Massachusetts Metropolitan Water Supply averages fifteen. The Mississippi at Minneapolis has an average hardness of about 130 parts; but it is soft in comparison with the waters of the Youghioheny River at McKeesport, running up to 550 parts, or to those of the Scioto River, at Columbus, ranging as high as 400 parts per million.

(4) Chemical reaction is not often an important point of consideration; excepting as the degree of alkalinity favors chemical treatment, or a high acidity, usually due to mine drainage, embarrasses it.

(5) All waters in storage, whether naturally or artificially impounded, are liable to the growth of algæ and this liability increases, not only with the stagnancy, but with the bacterial purity of water. At certain seasons of the year, these growths render the water unpleasant to the eye, and, later, by their decomposition, which is encouraged by carriage through pipes or conduits over long distances, they make the water offensive to taste and smell. Some types of algæ, such as the crenothryx, give a fishy odor and taste to infected water; while others, as the asterionella, bestow upon it a strong geranium flavor. Such a quality was so strongly present in the Boston water supply, during the last

spring, as to render it extremely unpleasant, not merely for drinking but for bathing purposes, and to cause the uncultured classes of esthetic Boston to refer to it freely as "rotten."

(6) Bacterial contamination is, of course, the most serious question to consider in the study of drinking water. Nevertheless, it must be remembered that the water bacteria are not necessarily, nor commonly, pathogenic. High bacterial count is significant and suspicious, but the differential determination of the colon bacillus is the commonly accepted key to pathogenicity,—the index to sewage pollution.

Unfortunately, no officially recognized standard of bacterial purity exists in the United States. Experts have generally accepted the German governmental standard of one hundred bacteria per c. c., with complete absence of the bacillus coli, as a safe guide.

With respect to these combined qualities of water, but one ideal should receive acceptance, either in the professional or the popular mind. The people have a right to expect and to demand that a public water-supply shall be not only bacterially safe, but physically pure; that it shall be pleasing to the eye and inoffensive to the senses of taste and smell, as well as free from objectionable micro-organisms. The methods of treatment which water receives must attain these ends, or they fail of their proper object in the attainment of potability.

#### METHODS OF TREATMENT

The methods of water treatment may be very briefly stated. They vary in their adaptation to differing conditions of water, but in one form or another they are in use, or projected use, in almost every large city of Europe and America. London, Paris, Berlin, Bremen, Breslau, Hamburg, New York, Brooklyn, Philadelphia, Little Falls, Jersey City, Toronto, New Orleans, Lawrence, Pittsburgh, St. Louis, Cincinnati, Columbus, Indianapolis, Albany, Providence, Washington and Harrisburgh, with many others, present various types of water purification. Despite the radical opinions of the minority of the Pure Water Commission and their followers, respecting the purification of water, it cannot be that all of these cities have gone wrong.

A combination of methods,—and these combinations, also, are varied to suit existing conditions,—is commonly employed.

The simplest and the most natural feature of treatment is by storage. The result at which storage has traditionally aimed is sedimentation.

Time is of the essence of this achievement and sufficient storage-time means large storage basins. Few cities have sufficiently appreciated this relationship between time and capacity and successful sedimentation. The Croton Reservoir of New York; the great Ashokan Reservoir which New York is creating in the Catskills; the Clinton Reservoir, on the Wachusett water-shed, supplying Boston; the reservoir at Boonton, New Jersey, on the Rockaway River; the large sedimenting basins of Indianapolis; all are evidences of the importance which is coming to be attached to this method of treatment.

Recent investigations tend, however, to show that sedimentation is not the only, nor, perhaps, the most important result of storage. By this process, sufficiently long sustained, the bacterial content of water is diminished more materially by death, due to starvation, incident to the poverty of organic material in extensively stored waters, than it is by mere bacterial precipitation. The pathogenic forms of water-borne micro-organisms succumb with especial readiness under these conditions, since they depend largely upon the presence of animal matter.

Turbidity, due to coarse particles in suspension, is, of course, lessened by sedimentation, while, undoubtedly, this subsidence of physical impurities assists in carrying down bacteria. Even in running water, micro-organisms are diminished, not by any purifying influence incident to movement, but by gradual precipitation and by bacterial death hastened by the scarcity of food material in the water. A bacterial chart of the Mississippi River shows neighborhoods of sewage pollution and consequently high bacterial count, separated and distinguished by stretches of gradually improving quality.

The chemical treatment of water gives, at the present time, great promise of very brilliant results. Popular and professional prejudice against this method of purification is subsiding before the proof that, scientifically controlled, such treatment is absolutely safe.

Opposition to the method among medical men and women has arisen from a misconception of the *modus operandi* of these agents. Congress, under the influence of local medical opinion, has for many years refused its permission to the employment of chemicals in the Washington water-system. This influence has, however, been educated and is today not only withdrawing its opposition, but lending itself to secure the passage of a bill granting this consent.

Combinations of chemicals, used in alternate

dosage of the water, are usually employed and are of two types: the granular sulphate of iron with the milk of lime; and the sulphate of alumina with sodium carbonate, the latter added in proportion to the previous alkalinity of the water.

These agents serve as coagulants, in insoluble form, by means of which bacterial, as well as physical precipitation, is affected in large measure.

By the iron and lime combination the softening of hard water has also been attempted, but has not, as yet, given very satisfactory results. It is an expensive process, requiring the massive use of chemicals and their very careful adjustment to the degree of hardness prevailing from time to time. Permanent hardness is only measurably decreased; since the cost of great reduction of very hard waters is prohibitive; while the temporary hardness is frequently increased by the large use of chemicals. Sulphate of alumina increases, usually, the total hardness to a slight degree, but it is an ideal agent for yielding a physically pure, clear and colorless water.

Usually the water with which these chemicals are mixed is thoroughly baffled and sedimented; after which it is run upon mechanically operated filter-beds, whereby the remainder of their insoluble, coagulated, bacteria-entangling mass is removed.

Within a very recent time, a new form of chemical treatment has been adopted which bids fair to write a new chapter in the history of the purification of water. It is not precipitative, but destructive of bacteria. It has become known as the hypochlorite method, this salt of calcium, the ordinary bleaching powder, being employed in the process. Lately, however, sodium chloride, electrolytically decomposed, has been used in place of the hypochlorite and with identical results.

This method was first used in the purification of the sewage effluent of Baltimore, which, polluting the water of Chesapeake Bay, threatened the oyster-beds. Successfully employed for this purpose, it has since been experimented with, both in Great Britain and in the United States, for the purification of drinking waters. At Boonton, New Jersey, the water supplied to Jersey City is so treated at an expense of from forty-seven to fifty-two cents per million gallons. It has accomplished well-nigh perfect results in the destruction of bacteria present in the raw water.

This process is now employed, in part, at

several places, and, notably, at the Union Stock-yards in Chicago; where, by its aid, the water of Bubbly Creek, into which a sewer-system directly empties,—which is itself, practically, an open sewer,—is purified to a point of marked superiority to the water of Lake Michigan supplied to Chicago residents.

Experiments have been made with this method upon the water of the Mississippi River, at Minneapolis, and upon the water of Lake Ontario, at Toronto, by Dr. F. F. Wesbrook, of the University of Minnesota. Dean Wesbrook has kindly given me permission to present a statement, the details of which he has put into my hands for this purpose, of the results of these experiments. A summary of the eight series, six of which were made upon the local water and two upon Ontario water, is extremely interesting. It goes to show that under minute, but effective dosage, water-borne bacteria and especially the pathogenic forms may be readily destroyed. The tables follow:

treatment, but this is necessarily a feature in the rapid or mechanical filtration of water, in which the sand layer is assisted by the coagulant, which forms an artificial *schmutz-decke*, for the removal of the physical and bacterial impurities of the water.

With the application of mechanical devices for operating the slow sand filters and with the attainment of a more rapid flow of water through them, many of the differences between the two types are fast disappearing. The distinguishing feature, however, of the slow sand filter remains, in its reliance upon the formation of a natural, instead of an artificial, *schmutz-decke* upon the upper layers of sand, by the deposited bacteria, which not only furnish an obstructive medium against the passage of gross and microscopic impurities alike, but which act, in themselves, as agents of bacterial destruction.

The term slow, as applied to the sand filter, refers not merely to the rate of filtration, but to the long maintenance of its efficiency. The rapid

## THE HYPOCHLORITE TREATMENT OF WATERS.

Experiments by Dr. F. F. Wesbrook, University of Minnesota.

Specimen No. and Origin	No. of Colonies of Bacteria in tap-water	No. of Colonies in tap-water kept at 19°-20° C. for 17 hours	Specimens Treated. Hypochlorite stated in fractions of grains. Colonies determined after lapse of seventeen hours										Bacillus Coli	
			Quantity of Chemical	No. of Colonies	Quantity of Chemical	No. of Colonies	Quantity of Chemical	No. of Colonies	Quantity of Chemical	No. of Colonies	Quantity of Chemical	No. of Colonies	In raw water, 10° C.	After Treatment
1. Mississippi Water ..... At Minneapolis, Minn.	245	325	0.5	2	0.25	1	0.125	10	0.1	8	0.05	20	+	—
2. Mississippi Water.....	110	190	0.2	20	0.03	40							+	—
3. Mississippi Water .....	140	164	0.2	7	0.03	16							+	—
4. Mississippi Water.....	39	137	0.2	2	0.03	18							+	—
5. Mississippi Water. ....	143	186	0.04	1	0.01	10							+	—
6. Mississippi Water ....	69	118	0.04	2	0.016	10	0.008	70	0.002	80			+	—
7. Lake Ontario Water... At Toronto	134	318	0.02	2									+	—
8. Lake Ontario Water.... At Ontario	55	1025	0.04	0	0.004	3							+	—

N. B. The higher efficiency of small doses of the hypochlorite in Lake Ontario Water appears to be due to its greater scarcity of organic material.

With or without chemical treatment, filtration has proven the most effective measure, up to the present time, in maintaining or securing the potability of the water supplied to the cities of the United States and of Europe.

Two types of filtration have been recognized, the so-called rapid, mechanical or American system; and the slow, sand, or European system, so called.

Both forms are assisted at times by chemical

filter is, on the other hand, of quick operation and requires frequent cleansing.

Putting the bacterial results of the two systems side by side they are fairly well matched as methods of purification. Choice between them is largely a question of adaptation to the local features of a given water-supply.

Filtered water,—in fact, all purified water should be stored in covered reservoirs, since exposed to the light it readily invites the growth



of vegetable forms, especially those of the algæ groups.

A study of the methods by which the purity of water is attained brings every candid scientific observer to the conclusion that either the gross or the microscope impurities of water can be absolutely removed; that no matter how impure any water supply may be, it can be efficiently purified.

Like any other scientific procedure, such a process demands (1) the planning and supervision of the construction of a purification plant by a trained engineer and (2) the intelligent control of its operation by a trained chemist and bacteriologist. Under such supervision and control, the human element in the result is a negligible quantity; since the duties of employees are, through these agencies, mechanically ordered at every step in their performance.

#### THE CONDITIONS OF LOCAL CHOICE OF WATER

The study of the several possibilities of water-supply for the City of Minneapolis and of the waters actually in use in other communities has brought the Pure Water Commission, with practical unanimity, to the recognition of certain important principles, to which I would invite your attention.

a. The primary choice of a supply lies between underground waters, on the one hand, and surface waters, as a class, on the other.

b. Underground waters are of presumably initial purity, although instances of deep-well contamination have occurred. Such contamination is rarely bacterial, but not rarely chemical. In certain of the cities of Germany, it has been necessary to filter artesian water, not only on account of the presence of bacteria, but for the precipitation and removal of excessive quantities of iron. Infection by iron is sometimes accompanied by manganese. The City of Breslau suffered a few years ago what is still known as "The Breslau Calamity," when its deep well system, installed at a cost of over half a million of dollars, was rendered useless, within a few days of time, by the sudden and permanent pollution of the water by prohibitive quantities of the salts of these two metals.

c. Underground waters are of variable, but excessive hardness and impose burdensome costs by way of expenditure for soaps and softening compounds. In the vicinity of Minneapolis, water drawn from the same depth has shown marked variation in its total hardness.

d. The use of underground waters is largely a question of adequacy of supply and a safe judg-

ment upon this question is impossible. Geologists differ widely as to the extent and capacity of the Jordan and Hinckley sandstone basins underlying this vicinity; so widely, indeed, as to suggest no possible consensus of judgment upon this point. The weight of testimony is on the side of doubt. For these reasons, the Commission declined to recommend the use of underground waters to this City.

e. Surface waters, whether of lake or river origin, must be considered as a class, since they are of similar origin and similarly liable, in varying degrees, to very much the same sources and forms of pollution.

Their differences are, in the main, superficial and may be briefly stated:

The run-ways of rivers are subject to greater, because more repetitional, pollution. Since the importance, however, of bacterial pollution is neither in numbers nor in constancy, but in specificity, the run-off of a lake may be infected, out of all proportion to the population upon its water-shed, as disastrously as may the running stream. One typhoid case upon the water-shed supplying the town of Plymouth, Pa., and another single case upon the run-off at Nanticoke, Pa., produced disastrous epidemics of this disease. The Croton Reservoir, of New York, has been repeatedly infected and the typhoid rate of the City has risen and fallen with the fact.

The stored water of lakes or impounded reservoirs has an opportunity of sedimentation which is valuable for the partial removal of precipitable impurities; and river water, to be used for public water-supply, should be treated by preliminary storage, as Minneapolis is doing and has been doing for several years.

On the other hand, all waters stored, whether naturally or artificially, are peculiarly liable, at certain periods, to algæal contamination. The mischief of these vegetable growths is not in their fresh state, but in their tendency to rapid decomposition, whereby the water containing them becomes tainted as to taste and smell. Filtration is the only remedy for this form of pollution.

The water commissions of Pittsburgh and Philadelphia hesitated to recommend a long distance supply for their cities, because to the cost of carriage would ultimately be added the cost of filtrations. The engineers of the Metropolitan Water Board of Massachusetts are now filtering certain influents on the water-shed and are anticipating already the filtration of their matchless water-supply as a whole. The Commission

in charge of the development of the new water-system in New York, of which the source is to be the great Ashokan reservoir in the Catskills, has planned and located a huge filtration system through which the water of the reservoir will be passed before it is distributed to the city. Dr. Darlington, President and Commissioner of the New York Board of Health, declares that "a satisfactory water-supply from any surface source can only be secured by filtration." The City of Toronto is installing a filtration plant for the water of Lake Ontario at the present time on the score both of the actual and the possible pollution of the supply. Dr. Goler, health officer of the City of Rochester, anticipates the time when the water derived from Hemlock Lake, thirty miles distant from the City, will have to be filtered. Professor C. E. A. Winslow, of the Massachusetts Institute of Technology, says "The conviction is steadily growing that *no surface supply* of water is *safe* without treatment."

It is the recognition of this essential uniformity of need for the purification of any surface water that has inspired in large measure the practical unanimity with which the Pure Water Commission has given its judgment against the plan of securing a water-supply for the City of Minneapolis from Mille Lacs.

Other and more weighty reasons for this decision are cited in its report. A lake of so large an area and so little general depth and with so small a water-shed, is one with the broadest variations in the quantity of its content. Evaporation from its surface is relatively great. The run-off from its land area is relatively small. Scant diminution in depth means large contraction of its marginal area. These topographical facts prepare one for the evidence that while in May 122,000,000 gallons a day was discharged, in August the output was reduced to 52,000,000—and at other times residents have walked the out-run of the lake dry-shod. Such a lake is a dangerous one upon which to rely for water-supply. It is a significant fact that Mille Lacs was surveyed, some years ago, by the Engineering Corps of the United States War Department with reference to its fitness as a feature of the reservoir system for the conservation of the head-waters of the Mississippi and that upon the strength of the report submitted Mille Lacs was rejected as a suitable reservoir.

The great capitalization required to install pipe lines over a distance of eighty miles and to buy up sufficient of the water-shed to permit the policing of the lake; the litigation, very probably

unsuccessful, which would follow any attempt to draw upon the waters of Mille Lacs; the legislation necessary and probably unobtainable in face of the active opposition of four counties, to secure condemnation rights,—are considerations which have determined the action of all but four members of the Commission against Mille Lacs.

But the ultimate fact which has weighed most heavily in the case is that the bacillus coli has been found in its waters, that vegetable infection prejudices its taste and odor at certain times and that, after all the delay and controversy and cost involved in securing the supply have been incurred, its filtration would have to follow.

Very much the same arguments, with those of added engineering difficulty and of prohibitive cost, have decided the Commission against the project of a Lake Superior supply.

If filtration must be had of any or all surface waters,—and that is the practically unanimous judgment of water experts throughout the country,—and if, as is conceded, with equal unanimity, any and all waters can be purified, it appears to be the part of wisdom to purify the water-supply which runs to our municipal door.

The water of the Mississippi River, at this point, is not a bad water, from the standpoint of treatment. It exhibits at times, oftener, perhaps, than we know, pathogenic forms of infection. It must, therefore, be purified. And the ultimate question, which has been before the Commission and is now before the City Council and the public is,—how?

For it is to be clearly borne in mind that surface waters, whether of origin in lake, or river, or both, vary from each other widely and in all the qualities of color, turbidity, hardness, chemical reaction and algæal and bacterial contamination. So wide are these variances that while certain general principles of water treatment are recognized and are everywhere applicable, the detail of method with one water cannot be safely predicated of another.

Further, it is to be remembered that the individual water varies in its several qualities with the varying seasons and with the meteorological conditions which attend them, and that intelligent treatment must depend upon a study of the individual water throughout the entire course of these changes and under the operation of these changeable influences.

Therefore it is that the Pure Water Commission has recommended to the City Council that an experimental purification plant be constructed under a competent engineer and that for a year a



chemist and bacteriologist, expert in water-work, be employed to study these changes and to determine the most efficient means of meeting them and of attaining the summum bonum of our ambition—a constantly pure water.

Approximately ideal plants are in operation in the cities of Philadelphia, Little Falls, Boonton, Pittsburgh, Cincinnati, Harrisburgh and Indianapolis and from the experience of their scientists and the observation of their methods and results, we can learn much.

The question of water-purification is at the zenith of its already brilliant development and Minneapolis may wisely profit by and adapt to its own problem, the achievements and experience of its municipal neighbors.

The city is to be congratulated again upon the establishment of a precedent in dealing with public questions of such a character by Commission. Our municipal government, antiquated as it is in many of its features, should be elastic enough to adapt itself to so rational and effective a method of procedure, in the development of its great public utilities. Howsoever public spirited and devoted city officers may be, they are, in the very nature of the case, unfitted for such investigations as the solution of these problems require.

It is a recognition of this fact, borne out by the experience of every other community, that has led the Pure Water Commission to recommend that a standing commission, to consist of five competent citizens, unpaid for their services, and of the five members of the Committee on Water of the City Council, be appointed to direct and supervise the experimental plant, to report upon its results and to prepare plans for and superintend the construction of a permanent water purification works under the approval of the Council.

On the other hand, it is a matter for regret that, having appointed the Pure Water Commission and having received, in the report of its investigations, the product of weeks of labor, the City Council should still deem it necessary to go into the details of the question *de novo* and to duplicate the inquiries of the Commission, instead of passing directly upon the merits of its reports. Such repetitional investigation is not only calculated to discourage other Commissions from undertaking similar labors on behalf of the city, but is manifestly futile upon its face.

After the Commission has taken the testimony of the ablest experts of the country upon all phases of the question, has carefully investigated, by the observations of several of its mem-

bers, existing conditions and has canvassed all available facts, it is a manifest absurdity for the City Council and the city officers to make junkets of observation which can develop no new facts and to employ single experts to make single series of tests, which are, in the nature of things, without conclusive value.

Experiment for a year upon the purification of the Mississippi water; experiment upon the water of Mille Lacs for a similar period, if the Council or the public so desire, together with a competent survey of the topography and conditions of the lake and its neighborhood, might be illuminative; but a visit of official excursionists to Mille Lacs, attended by one or two experts who take samples of water and estimate quantity of output on a single day or so, and then gravely draw conclusions from the crude and cursory observations they make, is a performance which borders upon the comic and makes one doubt whether our City Fathers have yet come to any adequate conception of the gravity of the question with which they have to cope. As well might they gravely journey to the intake pipes in the Mississippi River or to the Minneapolis reservoirs and try to estimate the quality and quantity of our present supply and to determine its need of purification by process of junket.

Minneapolis wants pure water and it wants it now. It has been awaiting knowledge of its needs and the means by which they can be best met and that knowledge has been intelligently supplied. It has been looking for decisive action upon the part of its authorities for a long time; it will not look with favor upon further indecision and delay. The Council has recommendations before it in the majority and minority reports of its Pure Water Commission which give it more ample basis for action than it can otherwise obtain. Those recommendations are conservative and call for sustained and scientific inquiry for the attainment of safe and satisfactory data, upon which further immediate action can be based, and in acting upon one or both of these sets of recommendations the Council cannot go wrong.

Let us have pure water and let us have it speedily.

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Neuralgia is differentiated from neuritis by the fact that in the latter pressure upon the nerve increases the pain. The pain of neuritis is more constant, and there are peripheral disturbances in the structures supplied by the affected nerve. —American Journal of Surgery.



# PHYSICIANS' INVESTMENTS

(A Series of Five Papers)

## BONDS—FOURTH PAPER

By EUGENE M. STEVENS.

Member of the Firm of Eugene M. Stevens & Co.

MINNEAPOLIS AND ST. PAUL

The professional man of average practice is usually far-sighted enough to save something systematically from his earnings, not only to provide for his old age and possible incompetence, but also that he may make his money work for him in earning more. He is thereupon confronted with the problem of investment, which, broadly speaking, is divided into two classes, speculative, with a possibility of large profit or loss, and conservative, based on ample security and safety, with a fixed income basis.

Too often the decision is in favor of the former, on the theory that small savings must earn large returns to make them profitable, and that only the man of large wealth can afford the fixed-income, secure, and safe investment. After an experience of over twenty years in the analyses of business institutions, the purchase and sale of their securities, and in confidential relations with large and small investors, I aver *that the small investor is the one, above all, who cannot afford to take chances.* In support of this, I am of the opinion that the average professional man, if he would take his savings for the past twenty years and compute interest thereon at, say, 5 per cent for the intervening period, would find a total present net amount greater by considerable than the result of his combined profits and losses through speculative investments during the same period.

It is to be regretted that there are "quacks" in finance, as well as in other professions; and it may be that they number among their victims some professional men: at least, it would so appear from lists of those "bitten" by exposed fakes.

As a matter of fact, one of the worst parasites on the people's savings, worse than the bucket-shop or ordinary gambling schemes, pure and simple, is the promoter who advertises something for nothing, the get-rich-quick schemer who makes large promises through the newspapers and otherwise and with no adequate guarantee of their fulfillment. He is getting the savings of those who can least afford the loss, and the way people will "bite" on these advertisements and schemes, promulgated often by men of no

standing or reputation in the community, is pitiable. Generally speaking, propositions of real merit do not have to resort to methods anything like these to float their securities, and such methods are usually prima facie evidence that capital will not approve the scheme.

Physicians would be the first to deprecate the folly of a business man, untrained in the profession, relying entirely upon his own judgment in matters of health or law, or acting on the advice or representations of some quack or pettifogger. Finance and investment are matters for long experience and deep study, and banking and investment houses of standing are trained in the profession so that their advice should be of value to the layman.

Now, as to bonds as investments of the most conservative class. It must be borne in mind that a bond is a *direct mortgage on property*, and, generally speaking, the investment bond is an absolute first mortgage with a large equity in property above the amount of the bonds. The sub-joined statement, based on a sample corporation, shows the order in which the company must meet its obligations in distribution of earnings, and also in payment of principal, either when due or by liquidation.

### ASSETS

Plant .....	\$1,000,000
Good-will .....	250,000
Merchandise .....	500,000
Accounts receivable .....	400,000
Cash .....	100,000
	<hr/>
	\$2,250,000

### LIABILITIES

		Priority of lien against earnings and assets.
First mortgage bonds .....	500,000	1
Loans, secured, from banks .....	250,000	2
Unsecured loans and accounts payable .....	500,000	3
Preferred stock .....	500,000	4
Common stock .....	500,000	5
	<hr/>	
	\$2,250,000	

It will be noted that in this case the proceeds of the entire \$2,000,000 of otherwise unpledged assets, including \$1,000,000 of so-called quick assets, which can be realized on before the sale of the plant, are available to pay off the bonds, ahead of all other liabilities. Further, if this corporation makes net earnings of only \$25,000 per year, it must all go to the payment of 5 per cent interest on the bonds. The stock, part of which may be issued for good-will only, or what amounts to that from a banker's standpoint, cannot receive dividends or payment of principal upon liquidation until after the bonds and all other liabilities are met, and, therefore, takes the entire chance of depreciation in earnings in bad years, necessitating non-payment of dividends, or depreciation in value of assets in liquidation. There is often, also, an additional stockholder's liability. All this also holds good in case there may be no bonds outstanding.

Of course, there are good, legitimate stock investments, but even there the investor is taking all the risk of the business, having to bear all the burden of unprofitable years and mismanagement, and, usually, with practically no voice in the control or management of the business. One of the most successful business men the Northwest ever produced made it a rigid rule never to invest in the stock of any corporation except for a controlling interest therein. The bonds, however, are secured by a first mortgage on the property, and must be met, principal and interest, before other creditors or stockholders have any claim.

*The point is that the bond is nearest the property and assets, and the stock farthest away.*

It can be clearly demonstrated that well-selected, first-mortgage bonds are the absolute in security. The question arises, therefore, as to the interest return thereon. Generally speaking, the best class of municipal bonds will yield from 3 3-4 to 4 1-2 per cent; seasoned railroad bonds of the best systems about the same; bonds of public service corporations, such as gas, street railway, electric light, power, etc., about 4 3-4 to 5 1-2 percent, with some of the higher class of industrials at 5 per cent to 5 1-2 per cent, with occasionally even a higher rate under certain conditions. It is entirely feasible for an investor to select some of each class, if he desires, to yield him an average of 5 per cent net income on an absolutely safe list, or, occasionally, certain choice opportunities will yield even better.

It must be remembered that from an income standpoint, stocks should usually be regarded

*not on the basis of what they earn, but on the basis of dividends actually paid.* Larger earnings in good years may be offset by meagre earnings in lean years, and the market value of stocks for a quick turn cannot usually be found to reflect the surplus earnings.

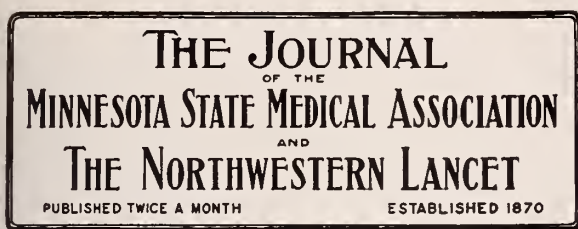
I therefore reiterate the statement made heretofore that the average investor, not engaged directly in business affairs, will generally in the long run do better with carefully selected, first-mortgage bonds of seasoned industries than with investments in alluring promotions or stock flotations of new institutions or untried industries, at the same time having his investment in a first-mortgage security, in most cases with a ready market in case he desires to convert his holdings into cash.

Note.—This last paper in this series will appear in our issue of Oct. 15th, and will be by Mr. F. A. Chamberlain, president of the Security National Bank. The subject will be "City Bank Stocks."—THE EDITOR.

#### THE ADMINISTRATION OF ANESTHETICS

H. J. Boldt, of New York, considers the competency of the anesthetizer of great importance. The safest anesthetic is ether, but many operations may be done with the use of nitrous oxide and oxygen, even long operations being possible. He believes that the general use of morphine and scopolamine before the ether is not without danger. The anesthetic should never be given on a full stomach, lavage being practised when necessary before the anesthetic is administered. In nervous, apprehensive patients, a single dose of morphine may be given, and anesthesia should be started with nitrous oxide gas. The smallest possible quantity of ether should be used, it being used by the drop method after unconsciousness has first been obtained. The cornea should not be touched to see if the corneal reflex is absent, since this may injure the eye. Alcoholic stimulation should not be used. A careful physical and urinary examination should always precede anesthesia. Indiscriminate use of strychnine is a bad practice.—Medical Record, May 29, 1909.

A small, hard, tender nodule situated over the thenar or hypothenar eminences may be a broken-down dermoid cyst.—American Journal of Surgery.



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SEPTEMBER 15, 1909

## THE EDUCATION OF THE PUBLIC IN HEALTH MATTERS

An Indiana legislator said in an interview that many of his constituents had asked him to see that laws were passed preventing hog cholera and tree scale, but that he did not remember once ever having been asked to pass any laws to protect women and children from preventable diseases. This fact was brought out in reference to a meeting of the American Congress, which is to be held in New Haven in November; but it is an indication of what is going on in the public mind all over the country, and shows the necessity of educating not only the farmers, but all lay people, in order that they may interest other legislators to pass laws concerning the protection of both in health matters.

The people have been interested in the recent epidemics of anterior poliomyelitis, and many of them have learned to pronounce the name correctly and to distinguish it from other epidemic diseases. The people and many of the physicians cannot understand why it appears in one locality and not in an adjoining community; for instance, there have been a number of cases in St. Paul

and, so far as we can learn, practically none in Minneapolis. The intercommunication between the two cities is sufficiently active that if it were an epidemic of the usual order there would be cases in Minneapolis.

Houston, Minn., has reported an epidemic of a limited number of cases of varying severity. Several deaths have occurred in St. Paul, but none in Houston.

These epidemics have not as yet thrown much light on the cause of the disease, and no one has made a positive discovery of the features which may be the causative factor. It is well, perhaps, that the newspapers have taken up these subjects, and have given widespread information, in spite of the fact that the sensational accounts are more or less alarming to nervous people. The spreading of information of this kind is of great advantage, particularly if it is carried on in the country and agricultural newspapers. There the paper is more carefully read by the members of the family, and the people get at least a smattering of the possibilities and dangers to the public health, even in isolated sections of the country.

It is rather surprising that after all these years of endeavor to educate the people we are practically unable to influence legislation to any great extent. Although preparations for the suppression of disease have been increased there is still a lack of realization on the part of the legislator to protect the health of the citizens of the state. Large sums are readily appropriated for the protection of animals, both wild and domestic, but comparatively little has been done to protect the health of the country.

### PELLAGRA

An epidemic of pellagra at the State Hospital at Peoria, Ill., has been in progress for some time. Fifty cases were suffering from the acute symptoms of the disease, and fifty more were convalescent.

The favorable outcome of the majority of the cases at Peoria is undoubtedly due to improved sanitary surroundings and nutritious foods. It has been supposed for years that the disease was due to maize that had become infected with bacteria of an unknown type, but it hardly seems possible that an epidemic of this comparatively rare disorder could have arisen from such a cause.

Pellagra is frequently epidemic in Italy, Spain and Roumania, and the result is a large number of deaths. When one has travelled through those countries, particularly the poorer and



squalid sections, it is not difficult to understand the presence and prevalence of such an epidemic. When people are filthy and careless and live like hogs in a pen, it is a wonder that other and more virulent epidemics do not devastate the communities.

When it occurs among the poorer classes in the South, and especially among the negroes, it is an evidence of unhygienic living.

The government officials have investigated the epidemic at Peoria and will doubtless throw some light on the situation.

The chief symptoms of pellagra consist of changes in the skin, gastro-intestinal disorders, and nervous manifestations.

The portions of the body exposed to the air usually show at first a red spot, which spreads slowly and undergoes desquamation, leaving behind a dark olive-colored hue. The skin becomes fissured and covered with ulcers and crusts. The skin vessels become dilated and surrounded with round cells. The epidermic cells contain round cells also. The gastro-intestinal symptoms are mainly diarrheal. The nervous symptoms are many—sensory disturbances in the skin are most prominent. Ptosis, diplopia, optic atrophy, paralysis, and insanity are not uncommon.

The disease may run an acute course like any of the auto-intoxication series, but the usual course is one of chronicity, lasting from ten to twelve years.

The treatment is mainly hygienic. The patients should be isolated, the discharges disinfected, and flying skin flakes should be prevented by oil rubs and antiseptic baths. Cleaning of the alimentary tract and its disinfection are exceedingly important. Good air and plenty of it and easily assimilated foods are the best remedies. Extreme effort to promote cleanliness outside and inside of the body is the only salvation for the pellagrin.

The past few years have seen the uprising of several epidemic disorders, and physicians should be on the lookout for other bacteriological diseases that were common in olden times. We are better prepared now to combat some of them, but we know but little more of their origin than was known one hundred years ago.

Acrodynia, a disease similar to pellagra and due to the ingestion of contaminated cereals, occurs in epidemic form also. The symptoms are much the same in both, but the duration of the former is shorter. It is therefore possible that the distinction between these two diseases may not be recognized. The skin disorders so pro-

nounced in pellagra are not so vicious in acrodynia, although discolorations are present in both. Perhaps some of the unaccountable pigmentations which are so persistent might be explained, if a history of spoiled foods could be ascertained. The advocates of raw cereal ingestion are running risks if they persist in their faddish ways.

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## MISCELLANY

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### FORTY-FIRST ANNUAL MEETING OF THE MINNESOTA STATE MEDICAL ASSO- CIATION

At Winona, October 13 and 14, 1909

#### PROVISIONAL PROGRAM

WEDNESDAY, OCTOBER 13, 9 A. M.

##### Symposium:

Epidemic Anterior Poliomyelitis.

(a) Previous Epidemics, Dr. Haldor Sneve, St. Paul.

(b) Minnesota Outbreaks of 1908, Dr. A. S. Hamilton, Minneapolis.

Discussion by Drs. Thos. W. Stumm and Walter R. Ramsey, St. Paul; Drs. Donald Pritchard and Edw. D. Keys, Winona; Dr. F. W. Bullen, Hibbing.

During discussion, the epidemiological, pathological, and bacteriological data of the recent outbreaks in Minnesota will be presented.

Cancer of the Rectum, Drs. W. J. and C. H. Mayo, Rochester.

Discussion to be opened by Dr. Archibald MacLaren, St. Paul.

Right Inguinal Hernia and Concurrent Appendicitis, A Personal Experience of Eighty Cases, Dr. Walter Courtney, Brainerd.

Discussion by Drs. J. Warren Little, Minneapolis, and R. C. Dugan, Eyota.

Empyema, Diagnosis and Treatment, with Presentation of a New Instrument for Securing Permanent Drainage, Dr. W. T. Adams, Elgin.

WEDNESDAY, OCTOBER 13, 2 P. M.

Address of the President of the Association, Dr. Cornelius Williams, St. Paul.

Oration in Medicine, Administrative Problems in Relation to the Public Health, Dr. Walter Wyman, Surgeon-General of the United States Public Health and Marine Hospital Service, Washington, D. C.

##### Symposium:

Co-operation of State Forces in Minnesota Medicine.

(a) The State Medical Society, Dr. E. L. Tuohy, Duluth.

(b) The State Board of Medical Examiners, Dr. F. A. Knights, Minneapolis.

(c) The State Board of Health, Dr. H. M. Bracken, St. Paul.

(d) The State Board of Control in Its Medical Relationships, Dr. A. C. Rogers, Fairbault.

(e) The University of Minnesota in Its Medical Relationships, Dr. Chas. Lyman Greene, St. Paul.

(f) The Medical Press, Dr. W. A. Jones, Minneapolis.

(g) The Lay Press, Chas H. Grasty, St. Paul.  
Discussion by Drs. H. M. Workman, Tracy; F. J. Brabec, Perham; B. J. Merrill, Stillwater; H. A. Tomlinson, St. Peter, and J. E. Moore, Minneapolis.

THURSDAY, OCTOBER 14, 9 A. M.

#### Symposium:

Ophthalmia Neonatorum.

(a) Ophthalmological Field, Dr. F. C. Todd, Minneapolis.

(b) Obstetrical Field, Dr. J. C. Litzenberg, Minneapolis.

(c) Institutional Field, James J. Dow, Superintendent State School for Blind, Fairbault.

Discussion by Drs. F. E. Burch and Parks Ritchie, St. Paul, followed by general discussion.

Diagnosis of some Common Diseases of the Stomach, Dr. Christopher Graham, Rochester.

Discussion by Drs. W. D. Sheldon, Minneapolis, and C. A. Stewart, Duluth.

Cases of Tuberculosis Suitable for Treatment at the State Sanatorium, Dr. W. J. Marclay, Superintendent State Sanatorium.

Discussion to be general.

The Sterilization of Habitual Criminals and Degenerates, Dr. Burnside Foster, St. Paul.

THURSDAY, OCTOBER 14, 2 P. M.

The State Society and the American Medical Association, Dr. Frederick R. Green, Assistant General Secretary of the A. M. A., Chicago.

Diagnosis of Smallpox, Dr. John M. Armstrong, St. Paul.

Discussion by Drs. D. B. Pritchard, Winona; A. G. Liedloff, Mankato, and Dr. J. E. Crewe, Rochester.

#### Symposium:

Typhoid Fever, a Medical and Economic Problem, as Illustrated by the Classical Mankato Epidemic of 1908.

(a) The History of the Local Administrative Health Work, Dr. A. O. Bjelland, late Health Commissioner of Mankato.

(b) The Epidemiological History of the Outbreak, Dr. H. W. Hill; Epidemiologist of the State Board of Health.

Discussion by Drs. J. S. Holbrook and J. W. Andrews, Mankato; Dr. L. W. Armstrong, Breckenridge, and Dr. C. W. More, Eveleth.

### TWENTY-EIGHTH ANNUAL MEETING OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION.

The twenty-eighth annual meeting of the South Dakota State Medical Association will be held in the court house, Aberdeen, September 29-30, October 1, 1909.

#### ENTERTAINMENT

On the afternoon of September 29th the wives of the visiting physicians will be entertained by the wives of the members of the Aberdeen District Medical Society at the Commercial Club, and on the afternoon of September 30th by an auto ride and picnic at Tacoma Park.

On the evening of September 29th there will be a theater party at the opera house, and Thursday evening, September 30th, a banquet.

WEDNESDAY, SEPTEMBER 29TH, 10:00 A. M.

Meeting of the House of Delegates. Report of the Secretary-Treasurer and appointment of committees. Meeting of the Board of Councilors, 11:30 a. m. Other business sessions will be held at the call of each separate organization.

WEDNESDAY, SEPTEMBER 29TH, 2:00 P. M.

Welcome on behalf of City, Hon. A. N. Aldrich, Mayor.

Welcome on behalf of Aberdeen District Medical Society, Dr. M. C. Johnston.

Response on behalf of the State Association, Dr. S. M. Hohf, Yankton.

President's Address, Dr. S. A. Brown, Sioux Falls.

Laboratory Aids in Diagnosis, Dr. H. M. Freeburg, Watertown.

Synopsis—Importance. Equipment, Examination of Urine, Sputum, Pus, Feces and Stomach-contents.

Discussion opened by Dr. E. Jay Clemons, Aberdeen.

Conservatism in the Practice of Medicine, Dr. F. W. Minty, Rapid City.

Synopsis—Age of competition. Rush for notoriety and professional fame. Result. Plea for a resurrection of the higher ideals.

Discussion opened by Dr. Wm. Edwards, Bowdle.

THURSDAY, SEPTEMBER 30TH, 9:30 A. M.

The Importance of Pediatrics in the Practice of Medicine, Dr. C. S. O'Toole, Vienna.

Synopsis—The care and management of children in health and disease, and the effect of same on the physician's relation to both children and parents.

Discussion opened by Dr. C. F. Culver, Sioux Falls.

Remarks on Therapeutics, Dr. H. J. G. Koobs, Scotland.

Discussion opened by Dr. W. A. Kriesel, Milbank.

Medical Legislation, Dr. J. J. Mertens, Gettysburg.

Synopsis—Lack of interest of the Association in legislative matters. Failure to oppose evil legislation. State Board of Health. Lack of funds. Future outlook.

Discussion opened by Dr. F. E. Ashcroft, Deadwood. Certain Psychical Fallacies of Christian Science and Emmanuelism, Dr. W. S. Butterbaugh, Edgemont.

Prognosis in Cholelithiasis, Dr. T. B. Smiley, Mount Vernon.

Discussion opened by Dr. W. R. Ball, Mitchell.

Abdominal Diseases, Dr. W. J. Maytum, Alexandria.

Discussion opened by Dr. S. M. Hohf, Yankton.

THURSDAY, SEPTEMBER 30TH, 2:00 P. M.

Hyperthyroidism the Cause of Grave Disease, Dr. C. H. Mayo, Rochester, Minn.

Synopsis—Excess of secretions in the early stages, with toxemia and degeneration.

Discussion opened by Dr. A. T. Mann, Minneapolis.

Straight Bronchoscopy (demonstrated), Dr. Frank C. Todd, Minneapolis, Minn.

A Plea for Turbinotomy, Dr. H. H. Frudenberg, Madison.

Discussion opened by Dr. Frank Miller, Aberdeen.

Report of a Case of Exophthalmic Goitre Treated with S. P. Beebe's Serum, Dr. T. J. Billion, Sioux Falls.

The Diagnosis of Some of the Common Forms of Organic Diseases of the Nervous System, Dr. W. A. Jones, Minneapolis, Minn.

Discussion opened by Dr. G. S. Adams, Yankton.

Examination of the Ear, Dr. E. D. Putnam, Sioux Falls.

Synopsis—Method of procedure. Instruments necessary. Important points to be watched. Significance of pain. Condition of post nasal space and its bearing upon the ear.

Discussion opened by Dr. L. G. Hill, Watertown.

FRIDAY, OCTOBER 1ST, 9:30 A. M.

Diseases of the Breast (illustrated), Dr. Theodore F. Riggs, Pierre.

Synopsis—Anatomical and histological outline. Classification of diseases. Symptoms. Diagnosis from clinical picture and at operation from fresh tissue.

Discussion opened by Dr. F. M. Crain, Redfield.

Is the Surgical Treatment of Trifacial Neuralgia a Success? Dr. Frederick Treon, Chamberlain.

Synopsis—The relation of the country physician to the surgeon in submitting cases. Diagnosis of tic douloureux. Report of two cases with removal of Gasserian ganglion. Medical treatment, resection, evulsion and even removal of the ganglion often futile.

Discussion opened by Dr. R. L. Murdy, Aberdeen.

A Talk on Pneumonia, Dr. R. C. Faust, Salem.

Synopsis—Pathology and treatment.

Discussion opened by Dr. F. W. Freyberg, Mitchell.

Pathology and Treatment of Urethral Stricture, Dr. A. C. Stokes, Omaha, Neb.

Synopsis—Otis' original theory. Method of fixing a maximum stricture. Relation to chronic urethritis. Manner of treatment, rapid dilatation and internal urethrotomy, slow dilatation and resection.

Discussion opened by Dr. D. W. Craig, Sioux Falls.

Vaccine and Serums with Report of Cases, Dr. J. G. Chichester, Redfield.

Discussion opened by Dr. J. D. Whiteside, Aberdeen.

Medicine and Religion, Dr. G. I. Kheiralla, Lake Preston.

Discussion opened by Dr. D. Geib, Groton.

FRIDAY, OCTOBER 1ST, 2:00 P. M.

Eclampsia, Dr. J. A. Howard, Ethan.

Synopsis—General review with special attention to treatment—preventative and operative.

Discussion opened by Dr. C. E. McCauley, Aberdeen.

Gastric-intestinal Hemorrhage in the New-Born with Report of Case, Dr. E. L. Perkins, Sioux Falls.

Discussion opened by Dr. E. T. Ramsey, Clark.

Optometry as a Science—Some Recent Legislation Along the Line of this So-Called Profession, Dr. E. E. Reamer, Mitchell.

Discussion opened by Dr. A. A. Sornsen, Aberdeen.

Inguinal Hernia (demonstrated), Dr. B. A. Bobb, Mitchell.

Local Anesthesia in Radical Cure of Inguinal Hernia, Dr. C. W. Hargens, Hot Springs.

The discussion of these two papers will be opened by Dr. H. J. Rock, Aberdeen, and Dr. J. M. Walsh, Fort Pierre.

Puerperal Infections in Public and Private Midwifery, Dr. E. C. Miller, Brookings.

Synopsis—Infection exogenous in origin. Carelessness of physician and nurse, and their duties. Comparison of mortalities in public and private practice.

Discussion opened by Dr. C. B. Mallery, Aberdeen.

## MEETING OF THE STATE SANITARY ASSOCIATION

The third meeting of the Minnesota State Sanitary Association will be held at Winona on Tuesday, October 12th, the day preceding the meeting of the Minnesota State Medical Association. It is expected that the day sessions will be held in the same building with the House of Delegates.

Plans are being made for morning and afternoon sessions and also for a popular evening session. At all of these the questions under discussion will relate to sanitation and preventive medicine.

Dr. Luther H. Gulick, of New York City, has been invited to speak at the evening session on "School Inspection." He is a pioneer in this work. This is a live question at the present time and should be well discussed.

This Association is the official annual meeting of the County Health Officers, who are required under the provision of the state law to meet at the call of the State Board of Health. The attendance, however, is not limited to county health officers. Municipal health officers are not only welcome, but urged to join the Association. The point of difference between county health officers and the municipal health officers in relation to this Association is that the county is required by law to pay the expenses of its health officer while attending this meeting, but the municipalities are not required so to do. Nevertheless municipalities should voluntarily pay the expenses of their health officers while in attendance at this meeting, for undoubtedly the benefit to be derived far exceeds the cost of attendance.

This Association should become closely affiliated with the State Medical Association, possibly as a section. It is to be hoped that some action looking to such affiliation may be taken at the coming meeting of the State Medical Association.

The officers of the State Sanitary Association are Dr. E. H. Bayley, President, Lake City; Dr. A. Henderson, vice-president, Scanlon; Dr. H. M. Bracken, secretary and treasurer, St. Paul. Membership dues are \$1.00 per annum.

## NEWS ITEMS

Dr. J. Ohnstad has moved from Minneapolis to McIntosh.

Dr. C. C. Carpenter has moved from Ely to Grand Rapids.

Dr. C. Estrem, of Madison, S. D., has moved to Detroit, Minn.

Dr. John W. Kurtz, State University, '09, has located at Alden.

Dr. J. P. Dougherty has moved from Wabasha to Newcastle, Neb.

Dr. W. H. Banks has moved from Baldwin, Wis., to Hudson, Wis.

Dr. L. F. Woodworth has moved from Marshall to Le Sueur Center.



Dr. H. A. Bauman, of Minneapolis, has gone to Europe for special study.

Dr. Thomas J. Strong, of Enderlin, N. D., has established a hospital at that place.

Dr. E. J. Davis has been re-elected surgeon of the Minnesota Soldiers' Home at Minnehaha.

Dr. H. W. Allen, of Minneapolis, was married last month to Miss Maude Wohler, also of Minneapolis.

Dr. F. P. Rasmusson, of Kathryn, N. D., was married last month to Miss Clara Ekern of the same place.

Dr. Walters, of Moose Lake, is building a 28-room hospital, which will be ready for occupancy about Nov. 1st.

The contract has been let for the construction of an addition to the Deaconess Hospital at Grand Forks, N. D.

Dr. Anton J. Moe, of Heron Lake, has returned from Vienna where he has been studying for the past three months.

Drs. Dunn & Lewis, of St. Cloud, are building a \$15,000 business block which they will occupy as an office building.

Dr. H. J. Rock of Aberdeen, S. D., announces that he will hereafter confine his practice to office, hospital, and consultation work.

Dr. A. W. Swedenburg, of Ellendale, has moved to Thief River Falls and become associated with Dr. F. H. Gambell.

Dr. Thos. F. Waugh, who left Park River, N. D., for Saskatoon, Sask., several months ago, has decided to return to Park River.

Dr. C. W. Ray, who recently sold his practice at Nicollet, has located at Whittier, Calif. Dr. R. G. Olson succeeds Dr. C. W. Ray at Nicollet.

Dr. A. S. Hamilton, of Minneapolis, has returned from the East, where he has been several weeks, engaged in special study of nervous diseases.

Dr. J. C. Litzenberg, of Minneapolis, has returned from Europe where he has been during the past year doing special work in Berlin and Vienna.

Dr. C. L. Chambers, of Bismarck, N. D., sails for Europe next week to be absent a year, mostly in Vienna. Dr. L. A. Schipper, of Iowa, takes Dr. Chambers' work during his absence.

Dr. George E. Benson, of Minneapolis, has gone to Europe and will spend six months in

study at Vienna and in travelling on the continent. Dr. Benson was accompanied by his wife.

Cando, N. D., has a new hospital. The old county court-house was remodelled for hospital purposes, the county furnishing the money, but the hospital will be maintained by public subscriptions.

The South Dakota State Medical Association will hold its annual meeting in Aberdeen on Sept. 29 to Oct. 1. The program of the meeting and also the program of the Minnesota Association will be found elsewhere in this paper.

Dr. A. G. Belsheim, of Aitkin, has sold his practice to Dr. George M. Sewall. Dr. Belsheim proposes to spend a year on a timber claim in Oregon, and after taking a post-graduate course, he will return to Minnesota to practice.

Dr. James P. Davis died on Aug. 29th at the Soldiers' Home at Minnehaha, aged 66. Dr. Davis was born in England in 1843, and came to this country in early life. He came to Minnesota in 1875, and began practice at Kellogg. He practiced later at Millville and at Hammond.

The Minnesota Alumni of Rush Medical College will have a dinner at 1 p. m. on Oct. 13th at Winona, during the State Association meeting. It is expected that some members of the Rush faculty will be present. Dr. F. W. Dimmitt, of Red Wing, is president, and Dr. E. H. Bayley, of Lake City is secretary of the Alumni Association.

Dr. Thron S. Egge, of Moorhead, was murdered on the night of Sept. 5th by an unknown man who attacked him with a club as he was approaching his home at 11:20 p. m., on his return from visiting a patient. Dr. Egge was a graduate of the State University, Class of '93, and was a successful physician and a very highly respected man.

The new addition, just completed, to Emanuel Hospital, Mankato, makes the hospital building one of the largest in the state. This addition is 34x68 feet, four stories and a high basement, with a porch across the entire front. The hospital employs twenty nurses and also has a training-class in attendance. The new addition was dedicated last week.

#### ASSISTANT WANTED

A junior assistant is wanted at the State Hospital for Insane. Appointment for three years. Unmarried; some general hospital experience. An excellent opportunity for thorough training in general clinical med-

icine and pathology. Maximum salary, \$1,000, with board, lodging, and laundry. References required, and photograph. Address, Dr. H. A. Tomlinson, Supt., St. Peter, Minn.

## FOR SALE

A practice established over eight years in a city of 2,500 people. Will give practice to purchaser of my office furniture, about \$250. Good town; new railroad being built. Act quick. Address Doctor, Box E, Aitkin, Minn.

## PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

## PRACTICE FOR SALE

A good opening for a Scandinavian physician in a good town of 900 to 1,000 population, 40 miles from Twin Cities, with a well-to-do and thickly settled community and large surrounding territory; 90 per cent of population Scandinavian. Have done \$3,000 yearly, and collections nearly 100 per cent. Practice can be had for \$500, just enough to pay for office furniture. Will introduce success. I am going to specialize. Address E. N., care of this office.

## PRACTICE FOR SALE

A \$3,000 unopposed practice in a small South Dakota town. Collections, 95 per cent. I offer my practice, a good 7-room house, with barn, city water, lawn and fruit trees, etc., for \$2,000; part cash and balance on time. Examiner for two lodges and six insurance companies. Am going into the hospital business. Address S. C., care of this office.

## ASSISTANT PHYSICIAN WANTED

An assistant is wanted by a physician who has been eleven years in a thriving South Dakota town. The right man will find this a very desirable opening. References are required and will be given. Address, E. H., care of this office.

## PHYSICIAN WANTED

Wanted at once, a physician to locate in a city of 1,650 in south-central Minnesota. Farming community. Thickly settled. One who can speak Bohemian, or Bohemian and German preferred. Population, Bohemians, Germans, Irish, Americans, and Polish. Office rooms over drug-store free. Centrally located. Business established twenty years. Address B. M., care of this office.

## LOCATION WANTED

A German physician desires to locate in a German settlement, preferably in Minnesota or South Dakota. Address H. C., care of this office.

## OFFICES FOR RENT

Rooms 216, 217 and 218 Masonic Temple, Grand Forks, N. D., for sublet, to January 1st; all furnished and up to date. Party must be acceptable to Mr. Walker, manager of "The Temple." Phone 8009 T. C. or address J. E. Engstad, Grand Forks, N. D.

FOR SALE

A doctor's Maxwell automobile, 20 horse-power; top and extra rear seat and all extras; a \$1,500 car; run second year; warranted to be in first-class condition, for \$700.

Also a Waite & Bartlett static machine; large size; x-ray attachment and twenty-five accessories, \$100. Must be sold at once. Address Box 366, St. Cloud, Minn.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH  
OF MINNESOTA FOR THE MONTH OF JUNE, 1909

## REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JUNE, 1909

[illegible]

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF JUNE, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	7	1				2								2	
Anoka.....	3,769	4,053	1													1	
Austin.....	5,474	6,489	4														
Barnesville.....	1,326	1,566	1														
Bemidji.....	2,183	3,800	3	1		1								1			
Blue Earth.....	2,900	2,364	1														
Brainerd.....	7,524	8,137	12	3					1						1		
Chaska.....	2,165	2,085	2														
Chatfield.....	1,426	1,300	0														
Cloquet.....	3,074	6,117	12	1			1	2								1	
Crookston.....	5,359	6,794	9	1	1	1										1	
Detroit.....	2,060	2,149	2														
Duluth.....	52,968	64,942	72	5	1	6		7	6	1		2		4	1	3	1
E. Grand Forks.....	2,077	2,487	6	1				1									
Ely.....	3,712	4,045	3	1				1									
Eveleth.....	2,752	5,332	3													2	
Faribault.....	7,868	8,279	6														
Fairmont.....	3,440	2,955	*														
Fergus Falls.....	6,072	6,692	10	5	1											1	
Granite Falls.....	1,214	1,340	0														
Hastings.....	3,811	3,810	0														
Hutchinson.....	2,495	2,489	4			1						1					
Jordan.....	1,270	1,311	0														
Lake City.....	2,744	2,877	1	1													
Litchfield.....	2,280	2,415	2	1													
Little Falls.....	5,774	5,856	4											1			
Luverne.....	2,223	2,272	3	1	1												
Le Sueur.....	1,937	1,842	1														
Madison.....	1,336	1,604	1														
Mankato.....	10,559	10,996	11	1												1	
Marshall.....	2,088	2,243	2	1													
Melrose.....	1,768	2,151	1														
Minneapolis.....	202,718	261,974	184	26	1	14		6	2			4	1	5	1	12	
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	1														
Moorhead.....	3,730	4,794	2			1									1		
Morris.....	1,934	2,003	1														
New Prague.....	1,228	1,419	0														
New Ulm.....	5,403	5,720	6	1											1	1	
Northfield.....	3,210	3,438	5	1												1	
Ortonville.....	1,247	1,612	1														
Owatonna.....	5,561	5,651	3			1											
Pipestone.....	2,536	2,885	0														
Red Lake Falls.....	1,885	1,797	1														
Red Wing.....	7,525	8,149	10	1	1											2	
Redwood Falls.....	1,661	1,806	0														
Renville.....	1,075	1,229	0														
Rochester.....	6,843	7,233	25	3								1				7	
Rushford.....	1,100	1,133	2													1	
St. Charles.....	1,304	1,238	1														
St. Cloud.....	8,663	9,422	7													2	
St. James.....	2,607	2,320	1														
St. Paul.....	163,632	197,323	141	15		7	1	4	5				2	1	3	9	
St. Peter.....	4,302	4,514	4														
Sauk Centre.....	2,220	2,463	2														
Shakopee.....	2,046	2,069	1														
Sleepy Eye.....	2,046	2,312	2	1													
So. St. Paul.....	2,322	3,458	3			1											
Stillwater.....	12,318	12,435	3	1												1	
Thief River Falls.....	1,819	3,502	3														
Tower.....	1,366	1,340	*														
Tracy.....	1,911	2,015	1														
Virginia.....	2,962	6,056	9	2		2								1			
Wabasha.....	2,528	2,619	4											1			
Warren.....	1,276	1,640	1		1												
Waseca.....	3,103	2,838	3														
Waterville.....	1,260	1,383	3			1											
West St. Paul.....	1,830	2,100	1														
Willmar.....	3,409	4,040	5	1											1		
Windom.....	1,944	1,884	1														
Winona.....	19,714	20,334	19	1					2							3	
Worthington.....	2,386	2,276	3			1											

\*No report received. Health officer not doing his duty.



REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF JUNE, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....	..	1,636	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	0	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	2	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Buffalo.....	1,040	1,124	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Cass Lake.....	546	1,062	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....	..	4,231	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clason.....	962	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Delano.....	967	1,023	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	4	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,718	0	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	3	1	..	..	..	..	..	..	..	..	..	1	..	..	..
Hallock.....	805	1,014	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Hibbing.....	2,481	6,566	12	1	..	..	..	1	1	..	..	..	..	..	..	..	..
Jackson.....	1,756	1,776	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Kenyon.....	1,202	1,252	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Milaca.....	1,204	1,319	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelican Rapids.....	1,033	1,095	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Rush City.....	987	1,041	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Rapids.....	1,391	1,552	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scanlon.....	..	1,122	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Wadena.....	1,520	1,868	2	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Wells.....	2,017	1,814	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnepago City.....	1,816	1,553	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..
State Institutions.....	..	..	23	4	1	..	..	..	..	..	..	..	..	..	..	..	..
Other parts of State.....	1,012,328	1,035,886	492	67	10	27	1	13	7	3	3	8	1	7	11	44	1
Total for State.....	1,751,395	1,979,658	1247	153	20	73	4	36	26	4	3	16	5	21	24	96	3

146 Still births and premature births, not included in above totals.

\*No report received. Health officer not doing his duty.

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## A TALK TO DOCTORS\*

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When the American Medical Association took up the work of organization eight years ago, it found the condition of the profession in this country an alarming one. There were one hundred and twenty thousand doctors in the country, and of this number only thirty thousand had ever identified themselves with organized medicine. In other words, three-fourths, or ninety thousand of them, had graduated from schools, good, bad, and indifferent, gone out, and found their locations in cities and towns and country districts, and a large percentage of them had laid down their books and ceased to study. We found there were about fifty thousand of them who had never subscribed for a medical journal, and about that number who had no books in their offices which did not antedate their graduation, and in gathering these facts I could not help but constantly have the refrain running in my mind: "God help the families dependent on doctors of this kind."

This very imperfectly represented the real condition of the profession. A large percentage of it in almost every section, except in the Northwest and on the Pacific Coast, was in poverty, and the whole of it was in disgrace so far as the public estimation was concerned. We had been powerless to secure effective legislation in the states or in the Nation, and almost helpless

in enforcing such feeble legislation as we did secure. I have been connected with public work all my life. I have been a public official for twenty-nine years. Twenty-four years ago I was president of the National Conference of the State Boards of Health, and a meeting was called in Washington in the hope of establishing a national department of health. We had five hundred delegates from the various states and cities. President Arthur was in office at the time. He brought the matter before his cabinet, and Mr. Freylinghuysen, Secretary of State, the greatest public man I have ever known, and Mr. Carlyle, Speaker of the House, gave us a great deal of their time, trying to revise the bill to meet the objections which might be made to it by men holding prominent positions in the two political parties. Mr. Freylinghuysen told me, before the conferences were over, that he was sorry to say that he had very little faith in our securing the passage of the bill. He said he regretted very much to say it, the country needed the legislation very much, but, said he, "I have been here in public life, in the House or Senate, all my life, and the leading men of this country have very little respect for your profession, and it comes from conditions which exist within its own ranks. When this subject is under discussion they retire to the cloak-rooms and say to each other the doctors in my community, or in my district, are at war with each other, the regulars fighting the homeopaths and fighting each other,—just

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war and internal strife going on in the profession all the time, and, to show you how true that is, I live in one of the best cities in New Jersey and I know every physician in my city. I think every man there is not only a man of culture but a man of honor, but if a very small fraction of what these men say about each other to their patrons every day is true, a very considerable part of them ought to be in the penitentiary in place of engaging in the practice of medicine. It is not true," he says, "I am satisfied it is not true, but the people believe it and have reason to believe it, because they think the doctors know more about each other than anybody else does."

And that brought me back to my early experience as a surgeon. I did an active consultation and surgical practice for a quarter of a century, and I would be called out in consultation week after week. I would go out to a community, for instance, where there were two doctors engaged in practice in a country community, who ought to have been partners, because I believe that is the solution of the question. They ought at least to have been engaged in joint study for the advancement of their own interests and the best welfare of the community, but, instead of that, I would find usually, not always, but usually, that those two men were spending enough time every day maligning the personal character of each other to make both of them scholars of no mean attainments if devoted to study. I would go home with one of them to dinner, the one I was in consultation with, the only one I would see on that trip, and he would tell me his troubles, and he had none except with that one doctor. He loved every other doctor in the world as Damon loved Pythias, except his neighbor, who ought to have been his best friend. I would find frequently that he had destroyed the peace of his home telling his wife things about the other doctor that were not true, and kept her awake at night listening to his stories. As time went on, the next week, perhaps, I would be called out to meet the other one in consultation in the same community, and he would tell me the same story. Just erase one name and put in another and it would fit almost any doctor in the United States, and I found that what was going on in that little community between those two doctors was fairly representative of what was going on in nearly every section of the United States, only it got worse as we went higher up in the ranks of the profession. In the small cities we would find two factions, usually led by the two surgeons. They could get along with everybody ex-

cept each other. They loved the general practitioner and the eye-man, but could not get along with each other at all. Or we found the two eye-men that loved everybody else except each other. They loved the surgeon and the general practitioner, and so on to the end of the chapter. I have failed in my purpose if I do not make you understand that, widespread as this evil has always been, it is local and strictly confined to the men who are in competition with each other.

When we go to the large cities, where there are two or three or four medical schools, the thing is intensified and we find the hotbed that has bred these things from the beginning. Until recently the medical colleges of this country have been training-schools for strife in the medical profession. The members of the faculty often setting the examples for their students. I know it was true of my school, and I was educated in one of the best in the country. Our professor never felt he had completed his lecture until he had said something nasty about the surgeon of the rival school. The first school that was ever established in this country had Rush and two other great colleagues. With only three in the faculty, they were in a three-cornered row before the first year was out that almost broke up the faculty. The first one west of the Alleghany Mountains had Dudley, Drake, and Richardson as the faculty, and their troubles reached such a stage before the second year that Dudley challenged Drake to fight a duel. He accepted but failed to appear the next morning for the duel, but Richardson was on hand, angry with both, and said the faculty would be disgraced unless the duel was fought. He stepped into Drake's shoes and Dudley shot him through the femoral artery, and they soon became lifelong friends and expelled Drake from the faculty just as soon as they could have a meeting. Drake then went over and organized the next school in Cincinnati, the Ohio Medical College, and was expelled from that faculty before two years, and went down to Louisville and organized one of the greatest faculties ever gotten together on the American continent, with Gross, the elder, Yandel, the two Flints, Caldwell and Cook, and they led a merry war there with each other until there happened what has been going on ever since in medical school history. We have often wondered at the multiplication of medical colleges in the United States. The cause is plain: where there was a sword they would have a row in the faculty, and the next year we would have two schools, and in a few years they would



nave rows in their faculties and we would have four, and things like this have just gone on, year after year. I could give you a series of instances like this, but to show you it is not all ancient history, the first mission I was sent on in this work was to Milwaukee, a great metropolitan city, to settle a war between two schools. The peace committee were all appointed before I got there, and I had to stay two days before it was considered safe for those men to meet in my room for fear they would murder each other, for it was known they were armed for that purpose. And this in the twentieth century! Is it a wonder that we have not the confidence of the people?

I was going across the continent not a great while ago with one of the greatest men—his name is a household word—from one of the Atlantic coast states, and I happened, in an evil hour, to ask him about a rival surgeon in the city in which he lived. He was on his feet in a minute and damned him like a Pope's bull,—in his waking and in his sleeping, in his rising up and in his sitting down, he cursed him. I was in a city not a great while ago, one of the second-class great cities of this country, and after I had spent Sunday there one of the surgeons, and he is a surgeon of ability, telephoned and asked me to take an automobile ride with him next morning. It was very cold, it being winter time. I asked to be excused, but he insisted. I did not know him very well, and I could not understand why he was so anxious to extend me the courtesy, but I finally accepted. He showed me his private hospital, and it was a palace; he showed me his lovely home, and then we went on, and it developed what he wanted me to take that ride for. He wanted to tell me things about a rival surgeon, about his competitor. The things he told me were not true and he knew they were not true when he told me, yet he was a Christian gentleman. I have found that religion won't keep rivals from doing these things. They will go to church on Sunday and sing and pray, and go home and tell lies about other doctors they would not tell about any other human being on earth. I am talking very plain.

These conditions have met us often in recent years, but not everywhere. We have some cities, where it would be impossible for them to exist. They are probably minimized in this city, because I find where the country is prosperous there is less of it. You go into a country where the doctors are poor, and like all hungry animals they are quarrelsome. A doctor

said to me not a great while ago, when he heard me talk before a medical society: "This is a black picture you paint of the medical profession." I asked, "Is it true?" He said "Yes, it is true." I said, "Then I paint what I see in the hope, by holding this picture and its results up before the profession, that the time will come when some more fortunate man, following in my footsteps, will be able to put upon canvas what I would like to paint." That time is coming. When we found this evil in the profession so widespread, so disastrous to its good name and usefulness, and far more so to the best interests of the people, we were greatly comforted also to find that this was an evil not confined to doctors,—that it was a curse which comes to all of the segregated callings of men. It was worse in the clergy than it was in the medical profession, and it was bad in all the other segregated callings. There is only one vocation that has escaped it. That is the legal profession. Lawyers do not quarrel unless they are paid to do it.

Notwithstanding what I have said to you about our profession it has another side. I know more doctors than any other five hundred men in the United States. I know them in almost every county of the country, and I want to say that, barring this one fault, the disposition to envy and traduce his competitor, there is no class of men on the earth that will compare with the American doctor. They do more actual Christian charity than all the preachers and churches and charitable organizations put together, and if we can rid ourselves of this fault, as we can do by bringing about the same conditions that exist in the legal profession, we shall be irresistible. Lawyers do not come in the same class with the medical profession, to my mind, but they do not quarrel, because they live in constant elbow touch with each other. They come to know each other. They become tolerant because they do know each other, and it was with this information before us that we formed this scheme of organization of which so much is being said.

Many of the best men of this country were consulted and we devoted years of time to framing it, and you will be astonished when I tell you it was simply an attempt to bring about in our profession what exists naturally in the legal profession. We felt if we could get the doctors together in every community, get them to study together, to work together, to eat together, to come to know each other, the same

excellent conditions would be brought about, as among lawyers. This plan was adopted at the meeting of the A. M. A. at St. Paul, and no man could have been more astonished than I was when the work of promulgating it fell upon me. I felt that I was less qualified for it than any other man in the country, but I had retired from practice and it was insisted upon; and, gratuitously, for three years I deserted my family and just went backwards and forwards from the Atlantic to the Pacific and from Canada to Mexico, meeting groups of doctors every day, trying to persuade them what could be accomplished by a united profession; and we surprised ourselves at the result. It spread like a prairie fire. The doctors just fell over each other getting into this organization. I did not understand it at first, but could realize it after a while. They were so tired of fighting each other they were ready to try anything that promised relief. They felt like an old gentleman down in my city when he passed his cup at the boarding-house and asked the landlady to fill it for him a second time, and she said, "Mr. Jones, which are you going to take this time, tea or coffee?" and he said, "Madam, that depends on what the last I had was. If that was coffee I want tea, and if it was tea I want coffee. I want to try something I have not tried." These doctors are ready to try anything.

Starting with twelve thousand members of county societies, we went on until now we have over seventy-five thousand doctors in our society system. It just grew to such proportions that it astonished us every day. At last I retired from the work, expecting to take a trip around the world and be gone three or four years, but in a little while we found we had not accomplished anything,—that we had just enrolled a great medical army on paper without getting results. They simply joined as the average man joins the church. When the average citizen joins the church, nobody would ever suspect it from coming in contact with him. An old darkey said to me, down in our country when I was a boy,—he was telling me the news and he said, "Did you know, suh, that my Mars' John had jined the church?" I said, "No, I didn't." He said, "He has, about a year ago." I said, "Made much change in him?" He said, "Yes, a powerful change. When he went down to mend his fence on Sunday, he uster always carry his ax on his shoulder, but now he always carries it under his overcoat." That is about like the average doctor when he joined the society. He put his name down, but it did not change the spirit.

My colleagues asked me at last where we had missed it in our plan. I censured myself more than I did anybody else, and got time and place of the meeting of one hundred and ten societies, and I took the road again. I thought I would go out and make a study of county societies. In sixty cases they did not have a meeting, often there was nobody there at all, not even the president or secretary. In fifty counties they had meetings and would remind one of a Presbyterian prayer-meeting. A few good old faithful souls would be there who would have been all right whether they had been there or not, but those that needed it most were not there. The president would call them to order and ask for the first essay, and forty-eight times out of fifty it was a text-book paper, and in forty-seven it was not from the latest edition of the text-book. There ought to have been a new edition gotten out of the man and his text, both. But he would read his paper and the president would say, "Now, we will have the discussion. Doctor Smith, will you open it for us? We have not much time for delay;" and I heard, day after day, almost these identical words: "Mr. President, I have not been attending as regularly in the past as I should have done, but when I hear a paper like this I think I certainly will never miss another meeting. This is a very valuable paper, but the doctor has covered the subject so thoroughly I really have nothing to say, and I will leave the floor for somebody else." He would sit down, and the president would call on others, and they would repeat with variations. And they would call that a county society! I heard that in great cities where they had medical schools, and colleges, and clinics.

After making the rounds of county societies I called my colleagues together and reported the pathological conditions I had found, because I considered these conditions in these societies distinctly pathological, and they asked me if I would not go out and try to explain to the profession what we meant by a county society and medical organization. I am now going to do that as rapidly as I can with you.

I find the best lot of men in South Dakota that I have come in contact with in a long time, and less organization in this state than any place I have been in five years. Your plan is defective. It is impossible for you to secure results under your present plan of organization, with large districts, embracing several counties, expecting men to come forty, fifty, or even seventy miles to a meeting. We believe there ought to be a society in every county in the United States



where there are as many as four good, active practitioners, and that it is easier for the small counties to get the best results than it is in Chicago, Sioux City, or Omaha. I believe the society in Yankton County ought to be the most powerful influence that exists here, not only for the betterment of every doctor, scientifically, socially, and commercially, and for the elevation of his family, but it ought to be a potent force that would reach out into every home and benefit the condition of every citizen in the county. And I am going to try to explain to you how we believe this can be done. In doing this I will give you a little personal history.

Thirty-eight years ago I graduated from one of the good schools of this country. After a four-years' course I spent two years as interne in one of our great hospitals and then located in the community in which I was brought up and began to do surgery. I had not intended to do surgical practice, but it came to me. I was a beardless boy, and in a few months time I had a large practice. In a short time I sutured a ruptured uterus. I did not know I was doing pioneer work. In a short time I removed the head of the colon and 22 inches of the ileum and presented the specimen to the state society and, eleven years later, the result of the autopsy. In a little while I was doing surgery over half the state and in a short time it dawned on me I was not competent. I was not equal to the work that had come to me and decided to quit practice. I believed then, as I believe today, that if I continued in practice for one day without having made of myself the most competent doctor possible to my brain, that I was a criminal and that my criminality was not lessened by the fact that what I did or failed to do was legalized by my diploma or license, and the graves covering the victims. And I believe that is true of every doctor in this broad land of ours and of you. There is no other vocation like ours. There is chance for an appeal from the decision even of a court, but there is not a busy doctor within the sound of my voice who does not pass the life and death sentence on some human being almost every week of his life. There is not a source of information open to a doctor in Chicago or Berlin that is not open to every doctor in this county, and in every rural district in the United States; and to my mind every family in this country, living in the small cities or in the rural districts, is entitled to just as competent service as though they lived in one of the great cities. The time has come for the profession to apprehend its responsibilities. I felt that, and consulted my father about it, who was a man

of large experience in the world, a man of travel and learning; and he said he thought I was right, but he said "Before you quit, move into a little city somewhere and organize a class and see if you can't make yourself competent. I can't understand why you should not." I moved into a little city where I now live, and in a little while I induced every doctor in the city and county to join in a post-graduate school. I believed we ought to have as good a school there as they could have in Paris or Berlin, and we had competent men, men who were students. But it broke down, it was premature, and possibly I was as much to blame for it as anybody else. I was not tactful. I was a young man without experience, and made mistakes in the management of the matter, and in consequence of the failure of that school I spent every dollar that I made for ten years taking post-graduate work, either in New York, Philadelphia, or abroad. I kept my family in poverty trying to qualify myself to practice medicine. I believed all the time that it was a great cruelty; that I ought to have had the privileges, right in my own town, of just such a school as I wanted; and we have today. We have as good a post-graduate school as there is in any of the great cities of this country or abroad, and I am here to try and convince you that you ought to have the same facilities for study in every county in this great state of yours, where there are as many as four or five or six competent doctors. We have a room fitted up with blackboards, charts, and manikins, a skeleton and a little bacteriological apparatus. We have never had a teacher from the outside. We selected our own teachers from the society and they have developed so rapidly that we have five as good teachers in that society as can be found anywhere. At first they began as timid young men, they wrote out their lectures and their demonstrations, mistrusting themselves. Now they come in before the class and begin their demonstrations without notes, and some of them will rival closely any of the good teachers in this country. I thought at first we would have to have a cadaver for demonstrations in anatomy and surgery. In a little while the young men developed a scheme which was much simpler. They found a great deal of difficulty in managing a cadaver. There is a superstition about them, and they decided to take up the different parts and organs of the body and study them systematically until they covered the whole, the four-year course, of medicine. For instance, if they were going to study the liver they found the liver of one of the lower animals, fresh from the slaught-



ter-house, would answer the purpose quite as well as that from the human body. We elected our young men to demonstrate the scientific branches and the old men to teach the practical branches. They dovetailed their usefulness right into each other, and the young man, with the liver lying on the desk before him, would give a thirty-five or forty-five minute talk on demonstration, a review of the gross anatomy of the liver and its appendages, and would then be followed by a second demonstration of the physiology of the liver, and then we would have the quiz. With us the class always quizzes the teacher. Every member of the society had made the anatomy and physiology of the liver his reading course for that week, but of course those who were to give the demonstration had studied it very much more closely. We found a good many of our members would absent themselves if they knew they were going to be quizzed, and they were the very ones who would ask the most questions, and their questions usually developed most important and very interesting points. Then we would have a little lunch, a cup of coffee and a sandwich, and adjourn.

At the next meeting they would begin with the diseases of the liver and devote about ten weeks to the study of livers. Two of the weeks would be clinics. Members would bring in cases for demonstration and diagram and study them as in the best schools. And then they would take up the kidneys and give ten weeks to that; ten weeks to the study of the skin, beginning always with anatomy and physiology; and this went on until it attracted the attention of the American Medical Association, and they have employed one of the teachers on our staff to conduct this course which is running in the Journal every week.

I believe the large majority of the doctors of this country ought to begin a course of study of that kind, or, in justice to their patrons, they ought to quit the practice of medicine.

I saw not long ago a demonstration of the gross anatomy and physiology of the spinal cord. I had returned from abroad, and the young man who had the work in charge had gone down and gotten a sheep's spinal column, had the butcher remove the muscular tissue, saw through the laminae and in the presence of the class he lifted the posterior bone segment and began a demonstration of the anatomy, the membranes, nerve origins, roots, ganglia, and the point of exit from the bony canal. I had not seen it done for a good while. I never saw it as well done in my life as

it was done in that little humble class-room, and what they have done there can be done in any other county, and the time has come to take it up.

The best county society in this country is in one of our counties where there were four doctors—and they never had but the four in the county. It is a mountain county at the end of a spur of railroad, an important mining and lumber town, with a great deal of capital for a little place. I went up there seven years ago to help them stamp out an outbreak of smallpox. I stayed there for two days before I could have the doctors meet in my room, because they did not speak, most of them, and I had at last to fool them to get them. I invited each one to come to my room without letting him know that the others were to be there, because they said they would not meet together. I locked the door, and I tried to make them believe they were not only a disgrace to a learned profession, but a disgrace to humanity. I believe any doctor who is misrepresenting his brother practitioner is making a mistake—I think it is largely the fault or the lack of education in our medical schools that it is overdone. I believe the system of education in our medical schools is mainly responsible for this condition of affairs, and has always been, and it will continue to a great extent until we can have the faculties of the schools believe that it is just as important to teach the young man, when going to their schools, while they are molding him and making him and burning him,—it is just as important to teach him the value of harmony in the profession, and his responsibilities to himself, to the community, and to his profession, as it is to teach him embryology. Let's get rid of some of the frills and teach the young man practical things.

Well, I tried to persuade these four men that they were a disgrace to the human race, and I succeeded, and they kissed and made up right there, and I organized them into a county society, and persuaded them it was easier for them to get all of the advantages of medical organization than it would be in Chicago or New York. With four of them living in a little county-seat, none out in the country, everything was possible to them. They were competent men, just misdirected, and I persuaded one of them to go to New York and take a post-graduate course for three months and the other three to do his practice, and give him the proceeds of it while he was away. I persuaded the others to go for courses in turn, one in New Orleans, one in Philadelphia, and one in Chicago. One was a surgeon of ability. He

had not been able to do any surgery up to that time because he had no assistants, no coöperation from his brother doctors. And then I suggested to them, as I believe ought to be done everywhere—I don't know as it is possible in the cities, but in every small town and county—to appoint a common collector for all the doctors, take their accounts on the first day of every month, while they were small, and collect them. I did not go back to that county for four years, and I would not have known that profession—I would not have known those people. It redeemed them. They had carried out what I had suggested. They had an excellent little hospital. They were doing almost ideal work. Their collector found in a little while that half the people in that town never had paid a doctor's bill, and owed every doctor in the town. They found it was easier to change doctors than to pay bills. These people settled up, and in a little while they were comparatively independent. After I saw what they were doing for themselves, for I am a humanitarian and an American citizen before I am a doctor, I went out and asked the bankers, lawyers and business men how this organization of doctors had affected them, and they said that great as had been the benefits it had brought to the doctors themselves, it had benefited the community one hundredfold more. They said formerly consultation was impossible, that up to the time that this work began, if they had a surgical case it had to be put on the train and sent to Cincinnati or Louisville, and that limited the benefits of surgery to a few well-to-do people, because the average citizen, the small merchant, the farmer, and the laboring man has to be relieved by his home doctor as a rule, or suffer or die without relief. So I say the possibilities of all this are almost beyond belief.

I want to insist that it is not only the duty of the medical profession to do this, but that it will pay an hundredfold to do it. I am told every day that the profession is overcrowded, but after a comparative study of conditions in this country and abroad, I have found that there is not a word of truth in it. If every sick person in this country who applies to a medical man for relief got the kind of examination and treatment to which he or she is entitled, there are not enough doctors in this country to do the work. The majority of them are not examined. Half of it is slipshod practice. The majority of doctors in this country are not paid enough to make a scientific examination; but a great many of them are overpaid for what they do do, when they are paid

anything. In most of the homes you will find enough lacerations of the perineum and cervix, and enough hernias that ought to have radical cures done on them, and similar things, medical and surgical, to keep all the doctors busy. I was talking to a man at the dinner-table to-day, a stranger, an elegant looking man, and he told me he had had a radical cure done for him two years ago, and said, "I would not take ten thousand dollars, and go back to my old condition. I would rather work for the money than wear a truss as I formerly had to."

These things are due the people, and I insist that if we could have this kind of study going on in every county in the United States, that many of these operations can be done in the small cities where there are hospitals, and that many of these simple repair operations can be done at home. I did them for a quarter of a century before we had hospitals, and got as good results as we do now. I went and sat at Emmett's elbow week after week, and then went to Europe, and found they could not do them at all there in that country, that they did not even compare with the work in this country, and I began to do the work myself. I find all over this country, even in this progressive western country, a very large part of the work is not being done. Some of you are doing it, and doing as good work as can be done anywhere, but a majority are neither doing it nor referring their cases to anybody else who will; and even where you have hospitals and surgeons who are competent, I find in a large part of this country, in the small cities and towns, that there are doctors who would rather see their cases go one hundred or two hundred miles to be operated on than see them relieved by some surgeon at home, equally competent. This is the spirit that has hurt us. This is human nature, more or less, but the time has come for us, in the name of humanity, to eliminate it so far as possible.

But it is especially in the field of internal medicine that we need to study. The surgeons have outstripped us. We have been practically at a standstill, except as to a few of the germ diseases, for the last fifty years. What do we know about the causes of insanity, the cause of neurasthenia,—that is a term to cover up a vast amount of ignorance? What do we know about the physiological or therapeutic effect of most drugs? What advance have we made since the experiments of Wood and Bartholow? I believe experimental work as to some of these things ought to be going on in every county where there are



three or four congenial young doctors who can be working together.

Some of you will say we have got to look to the great cities for the discoveries, to the laboratories, but unless the history of medicine reverses itself we shall look there in vain. Nearly all the great advances that have been made in medicine have been made by doctors of the small towns and country districts, from the time of Jenner down. Priestley began his work in a hamlet in England, a small place where the people tore down his laboratory, and he came over here to a hamlet. I made two or three visits to his laboratory, a little place built in connection with his residence, eight by ten, where he did his great life-work. Take the great work done by McDowell and Dudley in the early days, in little towns of three or four hundred inhabitants. And yet they revolutionized the surgery of the world. And take the work of Wyeth. I wish I could put before the young men of the country the example of such men as Wyeth, who came home from the rebel army where he was in the same company with my brothers, a ragged boy, went to Louisville where he had a very imperfect medical course, and he went down to practice in the little town where he was reared. His father was a great judge there. He got all the practice he could do, but Sherman had been through the country only two or three years before, and it was his boast that a crow had to go fifty miles to get his breakfast in any place he had been. He could not earn his salt, and went in a saw-boat on the Tennessee River, and built a hut on it for cover and had a saw and engine, while he practiced medicine on both sides of the river, studied, and laid the foundation for his great life-work. He was employed to go into the swamps of Arkansas. They gave him \$75 a month the first year and then \$125 and what he could do on the outside, and he stayed there until he saved up \$4,500. He often told me that he had decided to make himself one of the great surgeons of the world, and the question with him was whether he should locate in New York or London. Think of the presumption of it! He went to New York, but did not open an office, but rented a back room and he burned the midnight oil, and after he had gone on month after month he was made prosecutor of anatomy. The academy offered a prize of \$500 for the best preparation of the hip-joint. He sent in his specimen and decided to go abroad. He went cheap and stayed in London for awhile and went to Paris where Marion Sims was. He called on this great man and presented his card,

but did not make much impression on him. Sims simply said, "I will take your address, and if I have any surgery to do I will notify you." The next morning he heard a great racket outside and found the landlady was trying to keep Sims out of his room. He came in and said: "You are famous. I didn't know there was anything to you. You won the Academy prize in New York yesterday and you will be offered the chair of surgery in one of the best colleges of the country within a few weeks." The chair of anatomy became vacant in Bellevue, and he was offered it in the next six weeks, but he went in with Sims to breakfast and met his daughter whom he afterwards married.

I could give you a hundred instances like that, like the work of the Mayos up here at Rochester, the Mecca for doctors all over the world. There is nothing like it. I heard one of the great English surgeons say recently in Philadelphia that he did not believe there was a clinic like it in the world. I believe there is need for five hundred institutions like the Mayos'. They haven't any more gray matter than many other men in this country. Huxley said it was not men with genius that did things in this world that any man with a fair brain, good digestion, and industry could do anything that any other man could do. The reason they did that was because there were two brothers of them, with two brains and four hands working together in perfect unison, and they had the generosity, as the work went on, to call in other men in the community, until, when I was there, there were twelve brains and twenty-four hands, and now it has gone on until there are thirty brains and sixty hands, just working in perfect unison. I look upon this feature of the work there, their organized work and the unity in the profession, as being more remarkable even than their surgery, great as that is. That they could take the conflicting interests, take the condition of the profession as it existed, and unify the profession of that one community, I say was more remarkable than anything they have done in surgery.

I wonder often if you men here realize what is before you, in this great western country? This region is to be almost as densely populated as China in the next hundred years. This is one of the richest lands I have ever seen. I see every section of this country year after year. I see what is abroad, and I know that there are responsibilities resting upon your profession here, great complex sanitary and medicosocial problems you must solve, and I know that you can't solve them



with district societies meeting every two or three months. In fact, I find that in some of the districts you meet once a year if you can get a quorum. It can't be done this way. You need weekly meetings, or meetings twice a week, where you can study and work out problems. You need consultations over your conditions. Need to study your profession, its present and its future. Need to study your local problems. In nearly every community you will find some one man that is a fly in the ointment, sometimes two. Even under our liberal laws in Kentucky we are not allowed to kill such men, and yet they are there as an obstacle to unity, and the thing to do is for the wise men of the profession to put their heads together and see how best to deal with them and bring them in. I am satisfied that, in a large majority of instances, these men can be made useful members of the profession. We have already done it in many sections of the country. They have made mistakes. They made mistakes because they were not properly trained on the subject when they were in the medical school. They had little or no instruction as to real ethics or similar matters. They were sent out as I was, without rudder or compass, and I know I made mistakes. I took offence where nobody intended to give it, and I offended people where I least thought it, because I had not been properly trained along any of those lines. If commissions to surgeons are dishonest, as I believe they are, why were we not so informed by our teachers? Wherever anything is concealed from the patrons, whether it is commission or not, there is deceit in the transaction, and the time has come to openly assert it. If contract practice and lodge practice are wrong, as I believe they are, why not tell the men so while they are in their medical course? Why not instruct them? Why should not the great teachers in our schools comment on these things and turn these men out from their colleges with correct instruction along all these lines? The time has come to do it. And you need to do very much more than that. Your legislation in this state is imperfect, as it is in most of the states, and you only need to unite yourselves to do these things. We have succeeded in some respects in Kentucky better than many states in the Union. In many other respects we are behind you.

We have not had a quack doctor in Kentucky for ten years. Sioux Falls is as bad as Chicago, and that is the limit. Sioux Falls for a small city goes a right close second to Chicago. We eliminated quackery from Kentucky fifteen years ago, and had no great difficulty in doing it. We

haven't a better law than you have in this state. I am satisfied it is not any better than the law in Iowa or Missouri or most of the other states, but we united our profession to do this. Then we began to have joint meetings with the bar associations and with the newspaper men, and we induced them to make a war on the quacks. It required tact to do it. It was a very difficult problem to deal with. The newspapers were deriving a large income from the advertisements of these people, but when we convinced them the quack was not an ordinary thief, that nearly all of them had criminal records, we had little difficulty in securing their coöperation. I have had a great deal of experience in administering medical laws, and I have never known a quack doctor in my life that did not have a criminal record back of his quackery. There may be exceptions to that rule, but I have never investigated any such. We got copies of the indictments against these men where they had been indicted in other states for various crimes and took them to the newspapers. We always, in dealing with a prominent newspaper, put the family physician of the editor and two of his personal friends on the committee. We have gone about these things judiciously and tactfully. I was speaking in a city of the second class not a great while ago, and the profession told me they did not believe there was any way to reach the two newspapers of the city. I asked them if they could have the editors take part in the meeting that evening. They came to the meeting, and they occupied seats on the platform, and one of them spoke at the conclusion of my talk. The next morning we called on them. We had different committees appointed for the two men, the family physician of each of them, with two personal friends, and it did not take fifteen minutes' conference with them until they were ready to exclude all the fraudulent advertising from the papers. We did not ask them to exclude Peruna and all that kind of thing. We asked them to exclude the vile things, the "men only" advertisements, and the abortionists. In our state we have joint committees and we meet two or three times a year. We are not making as rapid progress as I would like, but we make a little more than they like sometimes.

I am told you have a great deal of difficulty in securing legislation in this state. The forty-one hundred doctors in Kentucky have more political power than any other twenty-five thousand men in the state. We have never asked office for ourselves. I don't know whether doctors have got to go into public life as Virchow,

Pagel, and Playfair did. There are ninety-six doctors in the French General Assembly this year. There are three in our Congress. Whether doctors will be forced to go into public life in a direct way, as to whether we have got to ask our leaders to make sacrifices, I am in doubt. I believe it is better to meet the bar associations, from which the legislators come, and meet them in perfect manly conference to discuss these things, the purpose for which the profession exists and its altruism. Convince them of that and I believe it will be better to judiciously labor with those men than to put doctors in the legislative halls. In our state most of this work is done in the county societies. Before the nominations are made the county societies take up matters with the leaders of the two political parties, and when they select their candidates the committees wait on them to know how they stand in regard to such health and medical legislation as will come before the Assembly. They are then in the putty stage, and they nearly always feel right, if you go to them in advance. We have very little partisan politics in the profession. Our doctors have gotten educated to the point where we are far more interested in our legislation than we are in the tariff or a good many of the other questions that doctors have allowed to disturb them. We are very much more concerned about these other things, and have the majority of our senators and representatives go to the capitol of the state with their minds already made up. I have been to every session of our legislature for twenty-nine years. We have a Committee on Public Policy. I am chairman of it. The other members do not come. They are busy practitioners. I have gone and stayed with my legislature for twenty-nine years. You ought to have one man to do all this work. He ought to be the secretary of the State Association, the secretary of the State Board of Health, and the State Board of Examiners, and you ought to give him from all these sources a sufficient salary so that he can devote his entire time to public affairs and be at the capital of your state during every session of the legislature. And that is a very small part of his work. He should go to every county in his state, as I have done over and over, and organize and help them. I know every doctor in the state of Kentucky. I have licensed every one of them, and have gone to most of their counties over and over again and worked with them. I have received no salary. The man who does this ought to have a salary, but I was a fortunate man, with a small family,

and was able to give more time to this than a man can do in many states. You have men who are financially able in this state to do this, and who would probably be willing to sacrifice themselves to do it. Having been down in the country and knowing the doctors and having explained to them what we were trying to bring about, and they knowing these efforts were unselfish, I would go up to the legislature, and usually found that when senators or representatives came to the capital they were all right. Occasionally the governor or some of my friends would come and say to me: "Doctor, Senator So-and-so doesn't talk right about your bills." I would say, "What does he say?" He would tell me, and say, "You had better see him." Now he is the last man I would see. That is the first thing the lobbyist would think about doing, but I am not a lobbyist. I never mentioned legislation to a senator or representative until they came to me, but I have helped them come to me many times. I would write to his county society and say, "You promised to send your member up here all right and he is all wrong. Can't you have him get thirty or forty letters from doctors and laymen by return mail, in the next day or two, if possible?" I could tell you how long before the member would want to see me, if I could tell how long it would take the letters to make the circuit and get back to him. As soon as he gets the letters he comes to me and says, "Doctor, I would like to have a talk with you." I would say, "Certainly," and he would say, "I wish you would explain these medical bills to me." I would start and read two or three sections to him, and he would say, "That is all right, I am going to support your bill, and I will make a talk for it if you want me to. I am going to support it in any way I can, and, Doctor, will you do me a little favor? Write down and tell the doctors in my county I am all right. I want to go to congress, or I want to be elected judge"—they always want something—"and if you will write and explain to them they will understand it," and I write down and say to them, "If you had done your duty he would have been all right from the first; it is your fault that he was not all right."

There is no hardship that we are laboring under that is not our fault. Get on the track of any evil that exists, socially or morally, and it comes right into our own ranks. We are to blame for the whole thing. The time has come for us to realize this.

And then we have done this. We have seen that no man has ever gone back that opposed our



legislation. A man that has not the sense to understand the altruism of this modern medical movement ought to be sent to school instead of to the legislature. The danger to us is ignorance in public life. Instead of half of the men we send to congress we might as well send a postal card.

What we need are constructive statesmen, men like Gladstone and Gambetta, men who can understand that the protection of the health and lives of the people, and the protection of the home, is the highest duty. And we need to wake up and teach them these things. We should meet with the municipal business associations, with the farmers' institutes, women's clubs and labor organizations. We ought to join hands with the labor people in their work for the protection of child labor. Many of our great corporations of this country are willing to coin the brain and blood of children, babes, for the purpose of getting rich. We have gone wild on the subject of wealth in this country, and we ought to join hands with the women in their clubs in regard to the protection of women in the work they have to do. There are many of these things that are semisocial questions, but no one understands the danger to children and the danger to women from improper employment as medical men do, and we need to enlighten the public along these lines. The time has come for the doctors in every community in this country to take up this work. I have been in some communities where the profession is divided into excellent men, good men, selfish men. The average doctor in this country that is not attending medical meetings is usually the most conceited man in the community. I just want to put that before you. It is easy to understand why he is. You take a doctor that locates out in a community, a town or city,—they are just as bad in the city as country districts—he has a devoted following of men and women, especially women, who really believe he is the greatest man in the world, and women,—you know how they are with the preacher or doctor,—they have got to tell him day after day what a wonderful man he is, and if he is not meeting other doctors in joint study to rub the conceit off of him, it is only a question of time until he really believes those are the most wonderful women in the world: they can recognize a genius the minute they see him, and the older he gets, and the smaller, the more conceited he is. He does not need consultation or help. He says, "I don't need to subscribe for medical journals. I was educated twenty

years ago. I don't go to medical societies, don't have to." We have got fifty thousand men of that kind in this country. The schools are to blame for turning them out. I give the medical schools notice in passing, constantly, that they are responsible for them. There is not a doctor practicing in South Dakota, no matter how incompetent he is, that we are not responsible for. He was graduated from schools that we recognize, he was licensed under laws that we put on the statute books,—because we put every one of them there and if they are not what they ought to be it is our fault. We did not know how to draw the laws or had not the influence to pass them as they were drawn. You may sit here in your cities and towns and say, as Cain said, "I am not my brother's keeper," but in the highest and best sense, we are responsible for every death caused by those men. They are dangerous, too many of them,—a source of danger to every family they wait on,—and I hold that the time has come when the leaders of the profession, in every county in this state and in every state in the Union, owe it to themselves, to the profession, and to the community to go out and put their hands under these men and lift them up to the light. That is one of the problems that are before the profession, and we need to get rid of the old spirit of ostracism, of selfishness, and work out such problems. Most of the doctors in this country cannot realize that any other doctor in the community has any rights but them. They are so busy getting their own rights and privileges and all that is coming to them, that they cannot understand that other men are entitled to the same privileges. We need to begin to live and let live.

Another thing to show you the spirit in which these laws ought to be administered. I told you we had not a quack doctor in our state. We have practically eliminated criminal abortion in my state. We have appealed to the people through the public press, and had editorials printed on the subject, asking them to furnish us the proof, that we intended to take away the license from every abortionist in the state, and stop the murder of unborn infants.

We had some drunkenness in the profession in Kentucky, and we decided to eliminate that, and in the last ten years we have cited many doctors to appear before the State Board to show why their licenses should not be revoked. When a doctor becomes a drunkard he becomes a menace to the community, and a reproach to his profession. Never has any one of these men appeared



before the Board for trial. He comes right to my office, and my son conducts the business when I am not there. I say these are good men. It is an infirmity with them. Frequently the man is the generous one of the family, and the rest do not drink because they are too stingy to buy the whiskey. He says, "Are you going to take my liberties away from me?" "No," I say, "we are going to try to set you free. You are a slave to the drink habit. You sign this pledge; I will put it on the back of your application." There is not a doctor practicing medicine in the state of Kentucky that did not take this oath as part of the license: "I have never been an itinerant or advertising doctor and I pledge my solemn word under oath that I will never become such under this license, if granted to me."

I say to them "If you will make this oath that you will never taste intoxicating beverages—you have got to be a total abstainer or die a drunkard—and if you do you will at once surrender your license for cancellation, you can go back to your practice." Forty-four men have taken that oath. Only one of them has ever violated it. We had one man after about six months get on a terrible spree. Just as soon as he was himself again he sent his license in and asked that it be cancelled. He said he was not entitled to any more privileges, he had no favor to ask, he had violated his pledge and wanted his license cancelled and he would go into some other business. I kept it three or four days and wrote him back that the Board was satisfied, after a careful investigation, that it was an accident, just a mistake and that we wanted to give him another trial,—and if he could control himself for six months I would return his license to him, to go on with his practice. That was six years ago. I had a letter from his daughter last year. She says, "You have saved my father. He was always the best and kindest man in the world, but he would have been in a drunkard's grave and now he is the most respected man in his community, and we owe it to your law." I say, if we can take up professional work in that spirit all of these things can be done. It is difficult to do, but anything worth doing is difficult. We need to substitute the spirit of tolerance and forbearance for the old spirit of ostracism.

I know whereof I am speaking. I made these mistakes. I am talking here this afternoon as Dickens wrote *David Copperfield*; it is a chapter out of my own life. I say I made many of these mistakes myself, but twenty years ago I realized what it was doing for the profession,

for myself, and for the people. I have never belonged to any sort of an organization, I have never belonged to lodges or anything of that kind, and I never took any vow except my marriage vow, but in the solitude of my chamber I lifted my hand, after mature reflection, and swore in the presence of my God that while I lived I would never say another unkind word about a doctor, that whether he deserved it or not, whether he appreciated it or not, whether he returned it or not, I would help every one of them that crossed my path, that I never would lay the burden of a straw across his path. I have wobbled sometimes, but I have tried to keep that pledge, and if I have served no other purpose in coming here this afternoon than to persuade every doctor within the sound of my voice, in so far as God permits him to do it, to go back to his community and extend a helping hand to every other doctor there, it will not be in vain. You will find more trouble with yourself than with anybody else in the community. People most generally go to church with a pitchfork in place of a rake. Everything the preacher says that is critical, they hand it out to some of their neighbors instead of taking it to themselves. If you make introspection you will find you have been to blame for most of these things yourselves. You are probably the most prominent men in the community, but you are human and give way to human failings. If I have served no other purpose then to induce every doctor within the sound of my voice to himself take this pledge, and go home and live up to it, you would soon so uplift the profession of your state as to make these things a reality.

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### THE ETIOLOGY OF PAIN

E. J. Janeway, of New York, says that we should be cautious in labeling a severe pain as hysterical. Pain due to toxic influences may baffle us unless we make diligent inquiry of the patient and his friends. Sciatica should be carefully scrutinized, since a condition that seems simple may be caused by pressure of a malignant growth. Pain in the abdomen may come from the kidney instead of the appendix, and it requires careful search to know whether pain comes from the kidney, gall-bladder, or appendix. Pain of ataxia may simulate some of these conditions. Pain in angina pectoris is severe and characteristic; when combined with increased blood pressure and ashy lips it should not be mistaken.—*Medical Record*, May 29, 1909.

# EPIDEMIC ANTERIOR POLIOMYELITIS\*

BY ARTHUR S. HAMILTON, M. D.

MINNEAPOLIS

The recent occurrence of epidemics of poliomyelitis in the United States and other countries has again drawn widespread attention to this disease and has sufficed to show that the classical picture of poliomyelitis, both clinical and pathological, is by no means correct. Though a few writers have recognized the disease as an acute inflammatory condition, probably infectious, the paralysis has appealed to most as the all-important symptom, and the evidences of general infection, such as hyperesthesia, neuritis, rigidity of the neck and back, and even opisthotonos and convulsions, are often neglected, and indeed the presence of these symptoms, if recognized at all, almost always raises the doubt whether the disease is not indeed meningitis. Thus, where the condition occurs in epidemic form, the earliest cases are often diagnosed as cerebrospinal meningitis, and it is not until the typical paralysis appears that the exact character of the disease is recognized, and even then it is sometimes stated that the two diseases are combined.

The most extensive epidemic of poliomyelitis on record is that which occurred in New York City and vicinity in 1907, when about 2,000 persons became ill with the disease which, for some reason, has appeared more frequently and widely in the United States than anywhere else. In 1905 and 1906, however, extensive epidemics occurred in Sweden and Norway, where about 1,000 cases were reported.

How far back in medical history these epidemics have developed, one can only surmise. In 1841 George Colmer, an American physician, observed some patients in Louisiana, whom he reported<sup>1</sup> in 1843 as follows, under the heading of "paralysis due to teething":

While on a visit to the parish of West Feliciana, La., in the fall of 1841, my attention was called to a child about a year old, then slowly recovering from an attack of hemiplegia. The parents, who were people of intelligence and unquestionable veracity, told me that eight or ten other cases of either hemiplegia or paraplegia had occurred during the preceding three or four

months within a few miles of their residence, all of which had completely recovered or were decidedly improving. The little sufferers were invariably under two years of age, and the cause seemed to be the same in all, namely, teething.

According to Dr. Starr, this is the oldest epidemic on record. How many others similar to this have been reported and are hidden away under misleading titles it would be impossible to say. At the meeting of the American Medical Association, in June, 1908, Dr. Starr was able to report 44 epidemics<sup>2</sup>, gathered, however, mostly from recent literature.

As a result of the study and comparison of recent reports, it is now coming to be recognized that the disease condition known as poliomyelitis means something more than merely the involvement of the anterior horns of the spinal cord; that, indeed, we are dealing with a general infection with a special predilection for the nervous system; and clinical and pathological evidence combine to show that the inflammatory process involves not only the cord, but also the medulla, the pons, and even the cerebrum, so that we may have meningitis and polio-encephalitis, superior and inferior, as well as poliomyelitis, all manifestations of essentially the same pathological process, the different localizations being merely a matter of accident, or at least, not essential features of the condition. The post-mortem findings in several cases are now on record where the pia around the brain, as well as of the cord, has shown well-marked evidences of inflammation. An involvement of the gray matter of the brain and of the white matter of both brain and cord has also been described. Though paralysis of the arms and legs is the most common form of motor impairment, simply because the cervical and lumbar enlargements of the cord are more often involved to a higher degree than any other part of the cerebrospinal system, yet we not infrequently find facial palsy and ocular palsy, and paralysis of articulation and deglutition. In practically every case, at least when occurring in the epidemic form, sensory symptoms are more or less prominent. It has even been suggested that we do away with the term poliomyelitis and substitute one more in keeping with the fundamental features of the disease. It is not likely, however, that at this date the long-used term, *poliomyelitis*, will be discarded, though the suggestion of Dr. Ivar Wickman, in

\*Read at the 40th annual meeting of the Minnesota State Medical Association, held at St. Paul, October 6 and 7, 1908.

Note.—In giving this report I desire to make acknowledgement to Dr. H. E. Robertson of the University Medical School with whom I saw the Barnum-Moose Lake epidemic and who furnished many of the notes here used; and also to Dr. J. T. Speck, of Barnum, and Drs. R. R. Chase and J. F. Farr, of Eau Claire, who were most kind in affording opportunities to see the patients and in supplying valuable information.

his excellent monograph<sup>3</sup> that so-called poliomyelitis be divided into certain groups or forms, has a definite clinical value and is a distinct aid in giving us a better conception of the disease, provided we bear always in mind that the groups are merely different forms of the same disease. He distinguishes—

1. The poliomyelitic form.
2. Forms running the course of Landry's paralysis.
3. The bulbar or pontine form.
4. The encephalitic form.
5. The ataxic form.
6. The polyneuritic form.
7. The meningitic form.
8. The abortive form.

During the past summer epidemics of poliomyelitis have prevailed in and near Barnum, Moose Lake, and Wadena, Minn.; Eau Claire and Chippewa Falls, Wis.; and more recently in Iowa and Manitoba, which conform fully to the symptoms as they have been described elsewhere, especially by Wickman, in poliomyelitis in epidemic form, and in which the recognition of the meningitic and abortive forms has been of special value in permitting an earlier diagnosis and in noting the real spread of the disease, though well-marked instances of all forms except the ataxic came under observation at Barnum, Moose Lake, and Eau Claire.

The first case in Moose Lake, four and one-half miles from Barnum, appeared on July 28th of the present summer (1908), in a boy of 6 years. So far, it has been impossible to associate this case with a preceding one. The other children in the same family remained well. The next case occurred at Barnum, and there was no known connection between the two. Since then in these two towns and in the vicinity, at least 45 children have acquired the disease in such form as to make the diagnosis reasonably clear. How many others have passed through abortive attacks either, as was commonly the case, because they were not brought to the physician's attention or because a positive diagnosis could not be made, it is impossible to say. Five children died. Of the Wisconsin epidemic I have not been in position to secure equally definite information, but I am told by Dr. Manning that there have been in Eau Claire, Chippewa Falls, and in the neighboring towns and country, 105 known cases of poliomyelitis. Fifty-nine of these occurred in Eau Claire, and of that number 14 died. How the disease originated and how it spread from town to town, it is difficult to say. Wickman, as a re-

sult of his experience in Sweden, insists that every case, even of sporadic poliomyelitis, can be traced to another, if only sufficiently careful search is made; but certainly the search has not been successful in the towns mentioned above. The epidemics occurred at a time when the schools were not in session, and, in the neighborhood of Barnum and Moose Lake particularly, many families where the disease appeared were living in more or less isolated country districts where it is difficult to see how the disease could have been acquired by personal contact at least. In Eau Claire there is a strong impression that its spread was due to the dust arising in an unusually dry and dusty season, and about 65 per cent of the 59 cases occurring in this town were recorded in an area of about four blocks square. Strange to say, however, instances where more than one case occurred in the same family in this town were distinctly infrequent, whereas at Barnum and Moose Lake this was common. Dr. Chase of Eau Claire called my attention to a young man of twenty living some distance out of Eau Claire who had acquired the disease though there had been no visitor at the house for a period of one month, and during this time no member of the family had been in town or in any way associated with any known case. Moreover, the patient himself had not been in town for a period of three months. The family lived in a peculiarly isolated region, in a bend of the river, so that the house was surrounded on three sides by water. Wickman, however, states that the inability to establish the etiologic sequence of cases arises from two causes: (a) our inability to recognize the abortive cases which, while quite capable of transmitting the disease, are not themselves recognized as instances of it; (b) the fact that the infection may be carried by healthy individuals.

In some epidemics, at least, animals are known to have acquired the disease in considerable numbers, but I could find no instance of this in either of the above epidemics except that a dog belonging to Dr. Chase died with symptoms very similar to those of poliomyelitis.

It is interesting to note that Dr. Farr, Sr., of Eau Claire recalls that about thirty-five years ago there occurred in that town an epidemic of paralysis among the children, of which he saw personally about fifteen cases. The nature of the disease was not then recognized, but there is very little doubt that it was poliomyelitis, and there is now in the town a cripple who traces his paralysis to that time, and whose present condition is



very suggestive of the final stage of poliomyelitis. Dr. Manning is inclined to think that the infection about Eau Claire and Chippewa Falls came north from Trempealeau County, Wisconsin, where there was an extensive outbreak last summer (1907).

As I have already stated, the clinical signs seen in these epidemics differed greatly from what are ordinarily looked upon as the symptoms of poliomyelitis. In most of the cases, without the knowledge that the epidemic was at hand, it would have been quite impossible to make the diagnosis before the occurrence of paralysis. In some of the cases the symptoms were very peculiar indeed, and at the outset suggested almost anything rather than poliomyelitis. In this connection, I desire to give briefly the history of a few cases. The two immediately following are fairly typical of the ordinary sporadic case of poliomyelitis:

CASE 1.—Boy; aged 6; living in the town of Moose Lake,  $4\frac{1}{2}$  miles south of Barnum. Became ill July 28, 1908. Symptoms consisted of high fever; vomiting; intense headache; pains in the back of the neck and running down the back; marked muscular irritability; "soreness all over"; retracted head; constipation and general prostration. The acute attack lasted about one week, during which time he had retention of urine, requiring catheterization four times. The third day of the disease, at the same time that the retention first occurred, paralysis of the lower limbs was noticed. The arms were weak and there was slight palsy of the right facial muscles with tongue protruding to the left. No eruption; no herpes; no conjunctivitis; no convulsions.

Condition at examination Sept. 1, 1908: Arms appear normal, but grip of right hand is slightly weaker than left. Paralysis and wasting of the anterior group of muscles of both thighs and of most of the muscles of both legs; double foot-drop. Patellar reflexes absent. Left Achilles reflex present; right diminished. Left Babinsky reflex present; right absent. No ankle clonus. Abdominal reflex slight. Tongue protruded to left. Pupillary reaction, ocular movements, and facial muscles normal. Patient absolutely unable to stand or walk. Slight movement of toes possible, more in left foot than right. Sensation of touch, pressure, and pain in the legs present, but dull. Appetite normal.

This is the first case of the series. There has been a little improvement in the past two weeks. Two other children in the same family, a girl aged 14 and a girl aged 2, have remained well.

CASE 2.—In Barnum. Boy, aged 2. Father and mother living and well. Three brothers, 4, 6 and 8 years, have remained well. None have been away from home. No acute illness of any sort in family for some time. Patient became ill Monday, Aug. 17th. Fever, reaching  $102^{\circ}$  and possibly higher at the outset, lasted four days. Pain present in the right ear at first. Marked twitching noted on both sides Monday night and all day Tuesday. Patient was drowsy, talked and jerked in his sleep, and had hallucinations of sight on

awakening, at the time of highest fever. Tenderness was present everywhere, especially along the back. The neck was stiff. He tried to vomit, but could not. Was chilly, but had no distinct chills. There was constipation. On Wednesday, Aug. 19th, he was a little better, and walked some, but had retention of urine for twenty-four hours. On Thursday he was worse, and his mother first noticed paralysis of the left arm and leg. The left shoulder was tender and has continued so since. The fingers and toes were not fully paralyzed at any time. The right corner of the mouth was drawn down. He "rolled his eyes" at one time, but had no oculomotor palsy when seen by Dr. Speck and Dr. Robertson. The next Monday, Aug. 24th, he could use his arm a little, and since then there has been gradual improvement in the left arm. There was also slight improvement in the left leg, but he still (Sept. 1st) stands imperfectly. Still has slight drooping of the right face, and the lines are more prominent on the left. Circumference of arms and legs equal on two sides, but left upper arm a little softer than right. Left arm hangs rather helplessly by the side, but he uses the left hand considerably. Left patellar reflex gone. Right barely present. No Babinsky. The left foot drops, and he advances it by swinging it outward and forward. Pupils equal and react to light normally. Heart and lungs normal.

CASES 3, 4, 5, 6 AND 7.—The T. family, living three miles west of Barnum, contains six children—four boys, aged 14, 12, 8, 6, and two girls, aged 10 and 2.

Girl, aged 10; taken ill Sunday, Aug. 16th, with high fever, pains in head and back; retraction of head; vomiting; constipation; and muscular irritability. Patient felt better Wednesday and played in the yard. Thursday night the doctor was called and found pulse 130, temperature  $105.5^{\circ}$ ; conjunctivæ injected; vomiting very marked; muscular twitching; severe pains in back; retraction of head and photophobia. Friday morning at 8 o'clock, the patient lost consciousness and died at noon.

Boy, aged 12, worked in the field Wednesday afternoon, Aug. 19th. Wednesday evening became ill with high fever, vomiting, very severe head-and-back ache and retraction of head. Friday afternoon was free from pain, much quieter and perfectly rational. Friday evening a prolonged tonic convulsion set in, ending shortly in death.

The above two cases are looked upon as typical instances of the meningitic form of poliomyelitis.

Girl; aged 2; taken ill Thursday, Aug. 20th, with similar symptoms, except absence of convulsions. Conjunctivæ were injected, and there was retention of urine requiring catheterization. On Monday, Aug. 24th, patient was very weak, and the lower limbs hung flaccid. The patellar reflexes were absent, and she was irritable and restless. The eyes occasionally showed lack of coördination in ocular movements.

Condition Sept. 1st, 1908: Can stand and walk with some difficulty. Legs are very weak, but there are no complete palsies.

Boy; aged 6; taken ill Tuesday, Aug. 18th, with headache, pain in back of neck, and on moving head; constipation; fever; vomiting; great exhaustion and muscular twitching. In two days condition subsided and patient recovered. No palsies.

Boy; aged 14; taken sick Aug. 17th with nausea, headache, pains in back; slight retraction of head with stiff neck; some fever and general malaise. Patient was sick for a day, and then recovered completely.

Boy, aged 8, remained well.

The illness of five children out of six in this family is strongly suggestive of the contagiousness of the disease, though it is quite possible that all acquired their infection from the same source. It might be pointed out that two of these were doubtful cases of poliomyelitis, but in view of their connection with the other cases in the same family, and the fact that many similar cases have been reported from other epidemics, one has reasonable assurance that all these children were affected with the same trouble, though some belonged to the abortive type. It is noteworthy that in the two children who died in this family, there was a period of apparent regression in the disease a short time preceding death, and the same condition was noted in several other instances including Case 10.

The following family outbreak presents a somewhat different picture, though the resemblance to meningitis is still considerable.

CASES 8, 9 AND 10.—Three miles northeast of Barnum. Family consists of five children; three boys, aged 29, 21, and 11; two girls, aged 18 and 13.

Girl; aged 18; taken ill Aug. 19th with nausea and vomiting and pain in stomach, back, and back of head. The head was retracted and there was constipation, fever and chills, and marked malaise. She continued ill Thursday and Thursday night and was very weak on Friday, but recovered completely on Saturday.

Girl; aged 13; taken ill Aug. 22nd with chills followed by fever, headache, pains in back, constipation and malaise. Was better on Monday, but very tired and had loss of appetite. Condition Sept. 1st: Apparently entirely recovered.

Boy; aged 11; taken ill Sunday, Aug. 23d, with severe chill, high fever, headache, general tenderness, constipation, and malaise. No subjective sensations. Appetite fickle. Patient better Tuesday and on Wednesday worked in the field, hauling stone. On Thursday, Aug. 28th, in the morning, complained of soreness all over, more marked in back and arms. Was tired all morning. No vomiting. At 8 p. m. the parents noticed twitching of the shoulders, and the patient complained of chilly sensations and could not sleep that night. Doctor Speck saw the patient on Aug. 29th; found backache and headache; twitching of both arms; pulse 120; temperature 103°. Sunday afternoon, Aug. 30th, there was paralysis of the right arm; head drawn back, and the patient "could not push chin down." Marked conjunctivitis. Tender over lower left iliac region. Was delirious Sunday night, and vomited a brownish fluid. He had some diarrhea Sunday, and some photophobia and some prickling sensations. There was no paralysis of face or tongue. He became gradually weaker, and died of respiratory and cardiac failure at 8 a. m., Monday.

The remaining children have not been affected.

The following are looked upon as typical examples of abortive poliomyelitis, though there is no absolute means of showing that the disease was present.

CASE 11.—In Barnum. Girl; aged 9; became ill Aug. 15th, with fever, intense headache, constipation, nausea, pains in back of neck, and marked muscular irritability. "She was afraid to play with her doll because she might drop it"; twitching of muscles, great weakness, and general lassitude. Condition lasted three days without patient going to bed, when complete recovery slowly took place.

CASES 12, 13 AND 14.—Family in Barnum, consisting of three girls, aged 8, 6 and 4, and baby boy aged 2.

Girl, aged 6, taken ill about Aug. 3d; girl, aged 4, about Aug. 7th; baby boy, aged 2, about Aug. 9th; girl, aged 8, remained well. The symptoms in each case were vomiting, intense headache, high fever, pain in the back of the neck, tenderness, and muscular irritability; constipation, and, in the baby boy, retention of urine for 24 hours. The acute attack lasted from two to three days, and was followed by lassitude and general muscular weakness for two or three days longer. No paralysis were present at any stage, and when seen on Sept. 1st all appeared perfectly well.

CASE 15.—Girl; aged 16. Patient, visiting Barnum, was taken ill Aug. 18th with pains in back of neck and head, fever, vomiting, constipation, and malaise. Her head was retracted, and she remained in bed three days, at which time her head was still somewhat retracted but the fever was gone. She left for Omaha Aug. 23d, apparently completely recovered.

Evidences of neuritis were common in the epidemic, but the most typical instance of this sort, which I have seen, was a sporadic case shown me recently by Dr. J. P. Sedgwick. A girl of five years developed pain in one leg, and was taken to a physician who diagnosed the condition as rheumatism. Shortly afterward another physician was called who diagnosed the condition as neuritis. A third physician, called later, considered it sciatica, as there was at that time marked pain and tenderness along the sciatic nerve. The child was then brought to Dr. Sedgwick who diagnosed the case as one of poliomyelitis, owing to the paralysis of the leg which was then beginning to appear, and which later became very marked.

In the course of epidemics, atypical cases frequently arise where diagnosis is extremely difficult and the following are selected as illustrating this point:

CASE 16.—Boy, aged 3 years and 9 months; two miles east of Barnum. Taken ill July 28th with vomiting, extreme malaise, pains and weakness in back; constipation; irritability and twitching of the muscles in sleep. Within a few days the parents noticed that the legs dragged in walking, and he was too tired to sit at the table. The second week he had an attack of fever; continued restless and twitching in his sleep.



Hyperesthesia was noticed during this week in toes and feet, in the hands, the groin, and the adductor surfaces of the thighs. His head ached in back and front. He talked less than before, and showed great reluctance to exert himself.

Condition Sept. 1st: Pulse 120; temperature normal; some wasting of body; patellar reflexes present; no Babinsky; no ankle clonus. He was weak, irritable, and peevish, and walked with difficulty, taking short shuffling steps. His head was distinctly enlarged, strongly suggesting hydrocephalus. The body and legs were poorly developed, and there was some enlargement of the thyroid. The testicles had not descended into the scrotum, but lay at the external ring well up in the groin, and possibly accounted for the marked tenderness in this region. At the time, this case was looked upon as doubtful because of the lack of typical symptoms, including definite paralyses and the presence of incompletely descended testicles, and possibly hydrocephalus. Shortly afterward, however, the child died with definite paralyses, and two brothers, aged 13 and 10 years, and a sister aged 8, passed through an acute illness, one with the development of paralysis.

The following case, shown me by Dr. Farr, is absolutely atypical in its onset and extremely interesting and wholly unlike any other that I have seen.

CASE 17.—Male, aged three years. On July 2d this child was kicked in the head by a sharp-shod horse, and an ugly wound filled with stable dirt was produced. The wound was carefully treated and healed without unusual manifestations. On July 16th Dr. Farr was called and found the child complaining of not feeling well and having some fever. On July 19th the jaw was rigid, and the mouth could be opened only a very little. The child was tender to the touch and had the sardonic grin of lockjaw. Another physician was called in consultation, and as it was the opinion of both that the child was suffering from lockjaw, subsequent to the injury, 3,000 units of antitoxin were administered on the 21st and repeated again on the 22d. After each injection the child seemed better, though on the 22d he had several short convulsive attacks. There were constipation and fever and partial retention of urine for two or three days. There was also inability to speak or swallow, and the condition was looked upon as a fairly typical case of tetanus, but on the 27th there developed a paralysis of the left face, of the muscles of the back and neck and of both legs and both shoulders and upper arms. The chest muscles were also paralyzed and respiration was abdominal. Since that time the child has improved greatly and is able to sit up and move its head without difficulty, but there is still a left facial paresis and a paresis of the shoulder muscles and of the chest muscles so that respiration is largely abdominal. The back is rather limber, and there is complete paralysis of the right anterior tibial muscles, with foot drop and loss of knee-jerk.

Some authors believe that the infection enters by way of food or water, and that there is always gastro-intestinal involvement. In practically every acute case that I saw there were foul-smelling feces with other evidence of gastric and intestinal disturbances. In Barnum and

Moose Lake, however, practically all the patients were constipated at the outset, whereas in Eau Claire and vicinity they appeared to be about equally divided between constipation and diarrhea. The difficulty in determining under such circumstances, however, just when diarrhea naturally appears and just when it is induced by purgatives is well known.

In connection with the possibility of infection through food or water, a case of Dr. Farr's is instructive. A two months' old baby, fed only at the breast, showed signs of illness including nausea and vomiting, and a temperature of 101°. Two days later, it developed a paralysis of the left leg and right arm.

Tonsillar involvement occurred so frequently at Barnum and Moose Lake that Dr. Speck was inclined to look on this as a not improbable means of entrance of the contagion. In this connection the following history is interesting:

A girl, ten years of age, became ill with backache and headache, some fever, pain in the region of the tonsils, and constipation. At this time she was seen by Dr. Speck, Dr. Robertson, and myself. She then had a temperature of 101° and pulse of 136; her tonsils were red, swollen, and sensitive, and covered with numerous small white spots. The symptoms of ordinary tonsillar infection were so clear that we all, without hesitancy, decided against poliomyelitis, though the subsequent history of the case showed that we were mistaken. The patient apparently improved for a couple of days, then became worse and developed typical symptoms of poliomyelitis, and died. Two brothers, aged 5 and 3 years, also developed poliomyelitis, beginning in both instances with tonsillitis. Three other children in the same family, aged 12, 8 and 7 years, remained well.

The prognosis in poliomyelitis, so far as the permanent paralysis to be expected is concerned, is notoriously uncertain. The following case of Dr. Chase is reported to show how excellent a result may be secured in a patient who, from the severity of the symptoms at onset, would be expected to die, or at least to be left with extensive permanent paralysis.

CASE 18.—Male; aged 4. Illness began Aug. 15, 1908, with retraction of the head, which was fixed in that position. The next day the child complained of pain in the back of the neck and seemed distinctly ill. There was some fever. The following day his condition was much worse and he was looked upon as being very seriously ill. His temperature reached 103.25° and his pulse 156 and even higher. He twitched and jerked constantly in his sleep, but never during waking hours;



talked in his sleep, but was not otherwise delirious. There were nausea and vomiting, and all the time he was sensitive to touch. There was never paralysis of speech, or loss of power to swallow. After a few days he developed a complete paralysis of both legs and distinct weakness in the arms. The retraction of the head, however, still continued, and for a period of 16 days he was looked on as not likely to recover. After that time he improved fairly rapidly, and when I saw him, on the 22d of September, there was no paralysis of any kind except possibly in his neck. His patellar, Achilles, and arm reflexes were all much increased, but there was no clonus. The retraction of the head was entirely gone, but on the day that I saw him, for the first time, the family had noticed that his head was drawn a little to the left, and this condition was present at my examination. There was not, however, a complete loss of power in any of the neck muscles or a condition of spasticity in those on either side.

#### DISCUSSION

DR. EMIL S. GEIST (Minneapolis): We can hardly overestimate the importance of the subject which Dr. Hamilton has presented. Perhaps Minnesota and the Northwestern states are just beginning to have epidemics such as the Eastern states and some parts of Europe have been subject to. Ultimately the orthopedist sees a great deal of the havoc wrought by poliomyelitis, and if there is anything we can do to prevent the spread of the disease we should certainly attempt to do it. Within the last few months I have seen over a dozen cases of fresh poliomyelitis, and my experience is no doubt similar to that of many other physicians in the city of Minneapolis, showing that we have at present, to say the least, a greatly increased prevalence of the disease.

We do not know the nature of the infectious organism in this disease; we do not know its manner of spread nor how it enters the patient's body; but it would seem to me that even now we can err on the safe side and protect those children, not exposed, from contact, direct or indirect, with fresh cases of this trouble. We can segregate the patients suffering from freshly acquired poliomyelitis, and by proper attention can keep ourselves, our hands, etc., from becoming the carrying agents of this disease from sick to healthy children. When we take into consideration the fact that this is one of the diseases that makes cripples, life-long cripples, with shrunk, wasted, deformed limbs, and flaccid joints, I think you will agree with me that it is perhaps of greater value to prevent the occurrence of ten cases of poliomyelitis than of a hundred cases of diphtheria.

I was sorry that the doctor did not touch upon the treatment of this disease when in the acute stage. All agree that absolute rest during this stage is imperative to minimize the degree of resulting permanent paralysis, and that rest is the chief essential of treatment in this stage.

After the ravages of the acute stage are over with, we have the measures, more or less successful, well known to us all, to combat the paralysis.

I would simply like to call your attention to the fact that the majority of the deformities resulting from this disease, are due to neglect to attend to very simple prophylactic measures at the proper time.

DR. GEO. D. HEAD (Minneapolis): I would like to ask the doctor whether in the course of his observation of these cases any blood studies were made, and whether by a leucocyte count a differentiation can be made between poliomyelitis and meningitis. In some of these cases there is difficulty in making a differential diagnosis, and excluding meningitis and the leucocyte count may be of value in pointing the way to a correct diagnosis.

THE ESSAYIST: There are many features of this epidemic into which I should like to have entered more fully, but it was impossible in a paper, already overlong, to do this.

So long as we remain in ignorance of the exact cause of poliomyelitis, it will be difficult to point out a line of treatment for acute cases, and though many measures have been tried I know of none which can be shown to have had much influence except that, as Dr. Geist has pointed out, the paralyzed part should be kept at absolute rest, in order that the joint may not be injured by the stretching of the ligaments, for example, before the muscles, if that fortunate result is to ensue, have had opportunity to recover their natural tone. In the late stages much can be done by the use of proper appliances, and by tendon and nerve grafting. In the acute febrile stage, those measures which would be of use in any febrile condition should be employed, though I am not sure that they in any way lessen the degree of involvement of the nervous system.

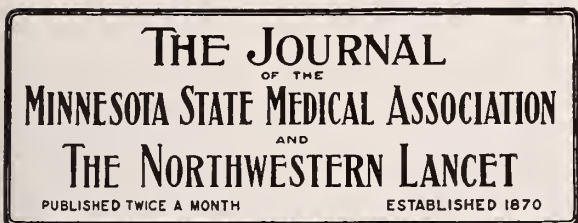
In reference to Dr. Head's question of blood studies: I have been interested in the same matter, and, strange to say, I have not been able to find any work done in this connection. In the hurried examination made of the patients seen in this epidemic, it was impossible to make any blood studies, and, aside from these, I have never seen a case of poliomyelitis in the febrile period. Dr. Robertson and I withdrew some cerebrospinal fluid from one patient 24 hours after death, but cultures, animal inoculations, and smears were entirely negative. It was impossible to obtain a post-mortem.

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## THE GENERAL PRACTITIONER AS A DERMATOLOGIST

Benjamin F. Ochs, of New York, believes that the general practitioner would benefit in the matter of diagnosis of general as well as skin diseases if he would make as careful a clinical study of skin diseases as he does of some of the other specialties. Histories are misleading with reference to skin diseases. They should be diagnosed by the appearance alone, and these appearances will often give a clew to the general diseases of the patient. Diseases of faulty metabolism in children are recognized by their cutaneous symptoms.—*Medical Record*.



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### GOVERNOR JOHN A. JOHNSON

The editor of the Journal-Lancet wishes personally to record his sorrow and regret at the death of Governor Johnson, and to extend the sympathies of the medical profession to the few remaining relatives of the Governor,—to Mrs. Johnson in particular.

When we were boys together, we worked side by side. It is a pleasure to be able to say that Governor Johnson, as a boy and as a man, was always the same true, genuine spirit that has brought him so much honor all over the land. As a boy, he was industrious, willing, and active; and as a man, he simply extended his sphere of activity into greater fields. His early training in a drug store brought him into contact with medical men, and he has ever since maintained a genuine respect for the medical profession, and during his term as Senator and his three terms as Governor, has continued to appreciate the work of all medical men who are attempting to improve the condition of the communities in which they reside.

So much has been said of Governor Johnson, and his manly and sympathetic qualities, that it is impossible to add anything further. The med-

ical profession will regret his loss, his personal encouragement, and his interest in medical matters.

### DR. McCORMACK'S SERMON

The sermon of Dr. McCormack, which was delivered before the South Dakota Medical Association, is a very interesting production. It gives the young practitioner an idea of what some of the older men have been through, of the difficulties they have encountered, and of the struggles they survived, and, finally, how they came out as representative medical men.

Dr. McCormack's acquaintance in the United States is very large, and the number of prominent men with whom he has been associated is further evidence of what the active practitioner may accomplish. He has been fearless and plain, and, on the whole, exceedingly diplomatic in his intercourse with other people,—both laymen and physicians,—and if the whole result of his work could be obtained, it would be a very valuable addition to medical literature. His one aim, or the most important aim in his talks to doctors is to create a better understanding between members of the medical profession, and to bring them into closer bonds of sympathy, and to make them work for each others good.

The address should be read by every physician in the Associations, and it should be read in the spirit that it was delivered; and it is safe to say that every man would profit in some way from some part of this address.

The endeavor of the American Medical Association to uplift the physicians, and to enlarge and educate its members, has been exceedingly gratifying, and perhaps there is not the same condition of affairs in the United States today as there was ten years ago, but there are very many towns and cities in which the spirit of discontent prevails among the doctors; and there is abundant evidence to show that in a large number of communities and Societies, in which doctors are represented, there is a genuine lack of interest in medical work.

One other point that Dr. McCormack has emphasized, and one which may be reiterated and ought to be impressed upon every medical association, is that every sick person who applies to medical men for relief and treatment should be thoroughly and carefully examined. Every physician has in his experience many examples of his, or some other doctor's failure to properly investigate the condition of the sick man who appeals to him for relief. The establishment of a diagnosis is the first endeavor of every scien-

tific practitioner. He may have to make his diagnosis very hurriedly sometimes, particularly in emergency cases, but this should not prevent him from corroborating it by a careful, systematic investigation of every ailment the patient complains of or shows evidences of. The man who pays his fee expects courtesy and careful treatment. It pays the doctor to make a record in this direction; it satisfies the patient that something is being actually done, and done with an idea of discovering the true source of his disorders.

The time is coming when the people of the country will demand more of physicians. It is right and proper that medical men and laymen should have a better understanding; that laymen should be instructed in matters which pertain to their general welfare. The doctor who succeeds in this will increase his self-respect, and the respect of others.

From Dr. McCormack's statement, the medical profession has a tremendous burden laid upon it, and it lies with the doctor to see that this burden is lifted, or at least carried, until he is entitled to shift it on other and stronger shoulders.

### THE STATE MEDICAL ASSOCIATION

The Minnesota State Medical Association which meets October 12th, 13th, and 14th in Winona, is planned to attract a large attendance. The program committee has made some radical changes and has opened up a new field for instruction,—the Symposium on the co-operation of State Forces in Medicine in Minnesota,—an attempt to bring together the various men who are interested in the various state departments. The program, however, is not made up exclusively of this sort of thing, but covers an exceedingly wide field, and the symposia in general are particularly interesting from a program point of view.

It is thought wise again to call attention to the fact that the State Sanitary Association, which meets on Monday, October 11th, will be an exceedingly interesting and important educational meeting, and an attempt will be made to get into closer union the various health boards throughout the state.

It perhaps would be fitting also to suggest that Winona is not a very large city, but it can adequately care for the State Medical Association. To save trouble, and expedite matters, rooms should be engaged in advance.

## REPORTS OF SOCIETIES

### HENNEPIN COUNTY SOCIETY

The Society met on September 6th with 40 members present.

Dr. C. N. Spratt reported the case of a boy who was looking at a dynamite cap when it exploded and a piece lodged in his eye. Dr. Spratt stated that an effort was made by the use of electric rays to discover the location of the foreign substance and that several plates were taken before anything was found, but finally a rather poor picture was secured, showing two rather faint spots.

Dr. Spratt stated that, although it was very unusual to successfully remove from the eye a non-magnetic substance, in this case the operation was entirely successful, the only trouble remaining being a slight redness of the eye.

Dr. S. Marx White presented a specimen of stool. He stated that there was little so far known of the case, as the plate was sent to him by Dr. Lyndale with but slight explanation. The man, a Finn, had presented himself for treatment for what he believed to be a tapeworm. Dr. Lyndale gave him a vermifuge and the man returned with a number of small worms about three-quarters of an inch in length with a hook on the end. These were evidently not pieces of a tapeworm, and Dr. Nickerson believes them to be the larvæ of a fly of some kind.

The Committee reported favorably on the proposed names of Dr. A. E. Higbee, Dr. P. A. Higbee, and Dr. E. J. Hennekins.

The Association then proceeded with the election of new members and the following were elected members of the Association:

Dr. A. E. Higbee, Dr. P. A. Higbee, and Dr. E. J. Hennekins.

The following names were proposed for membership:

Dr. John M. Egan, Dr. Geo. Cutts, Dr. A. G. Wethall, Dr. O. K. Eggen, Dr. R. Edward Smith, and Dr. G. W. Nuckolls.

Dr. A. T. Mann read a paper on "Ulcer of the Stomach and Duodenum," which will appear later in these columns.

Dr. R. O. Beard read a paper on "The Water-Supply of the City of Minneapolis." This paper was published in our issue of Sept. 15th.

Both papers were fully discussed.

C. H. BRADLEY, M. D., Secretary.



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## NEWS ITEMS

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Dr. W. S. Titus, formerly of Mora, has moved to Boise, Idaho.

Dr. Charles Blais, of Minneapolis, died last month of pneumonia.

Dr. J. H. Moeller has moved from Rugby, N. D., to Maddock, N. D.

Dr. C. J. Holman, of Mankato, is doing post-graduate work in Chicago.

Dr. Clifford C. Leck, of Austin, is doing post-graduate work in Chicago.

Dr. E. E. Barker, of Underwood, N. D., died last month at the age of 27.

Dr. C. W. More, of Eveleth, has opened an emergency hospital at Gilbert.

Dr. John R. Peterson, of Willmar, is doing post graduate work in Chicago.

Dr. N. M. Smith, of Minneapolis, has moved to Macoun, Saskatchewan, Canada.

Dr. F. E. Walker, of Hot Springs, will spend next month in the New York Hospitals.

Dr. A. H. Thornton, of Buffalo Gap, S. D., has put in a new drug-store at that place.

The work of grading and excavating has been completed on a new hospital for Proctor, Minn.

The Litchfield Hospital Association, of Litchfield, will erect a new building, to be 36x66 in size.

Dr. H. W. Goehrs of Wheaton, Minn., has removed to Melrose and formed a partnership with Dr. Hilbert.

Dr. John F. Quinn, of Hosmer, S. D., was married last month to Miss Cora M. Yeager, of Aberdeen, S. D.

Dr. J. M. Edwards of Mankato, Minn., has been appointed local surgeon of the Chicago and Northwestern road.

Dr. Tuohy of Duluth has recently left for a trip through the east to inspect the different tuberculosis sanitarium.

Dr. D. F. Dumas, of Cass Lake, is in the East doing post-graduate work. Dr. C. R. Keyes, of Duluth, has charge of his practice.

Dr. W. R. Murray has returned from a four months' trip to Europe for special work in eye, ear, nose and throat work in the Vienna clinics.

The cost of Montevideo's new hospital building is exceeding the estimates by \$5,000. Over \$16,000 has already been raised by subscription.

Dr. F. A. Van Buren, formerly of Lead City, has purchased the practice of Dr. W. S. Butterbaugh. Dr. Butterbaugh has moved to Lincoln, Neb.

Dr. L. C. Quagman, of Hermosa, S. D., a pioneer practitioner of South Dakota, died last month at his ranch home at the advanced age of 83, from nephritis.

Dr. A. E. Bostrom, a 1908 graduate of the University, who has been in the City Hospital for the past year, has begun practice, with office at 303 Central Ave.

The White Bear Hospital Company was incorporated last month with capital stock of \$10,000. Dr. Mary P. Hopkins, of White Bear, is one of the incorporators.

Dr. Frank Sykora, a recent graduate, has formed a partnership with Drs. Camp and Thabes, of Brainerd, the firm name being Drs. Camp, Thabes, & Sykora.

Dr. H. H. Kimball of Minneapolis has returned from a six weeks' trip as delegate of the American Medical Association to the International Medical Congress at Budapest.

Medical inspection is being tried in four of the Duluth public schools. Twenty physicians have volunteered their services and the work seems to have met with popular approval.

Dr. MacCarty of Rochester, Minn., who was to have read a paper at the Utah State Medical Association meeting, sustained a dislocation of the hip in an automobile accident at Ogden.

A site for the North Dakota Sanatorium for tuberculosis patients has been selected near Dunseith in the Turtle Mountains. A 240-acre tract of land was secured, with a lake frontage.

Dr. H. O. Altnow, who has been connected with the N. P. Hospital at Brainerd for the past two years and who has just recovered from a severe attack of typhoid, has located at Mandan, N. D.

Drs. B. F. Winsett, of Nevada, Iowa; A. F. Walters, of Council Bluffs; C. W. Edmunds, of Omaha, and E. H. Gwinn, of Dallas, Texas, visited Hot Springs, S. D., during the month of August.

Dr. R. O. Beard, of Minneapolis, is in the East to study laboratory buildings and get pointers for the buildings for the State University. He will also attend the meeting of the American Hospital Association at Washington.

Thief River Falls, Minn., is considering the matter of building a modern hospital to replace the present structure which has been found insufficient for the growing needs of the city. A proposition to bond the city for \$20,000 has been offered.

Capt. Joseph F. Siler of the army medical corps has recently reported fifty cases of pellagra at the Peoria State Hospital and an equal number of cases under suspicion. He believes that the disease has prevailed for some time in Illinois and the middle west.

The National Association for the Study and Prevention of Tuberculosis strongly condemns the practice of sending hopeless cases of consumption to the south and southwest, as physicians are doing every day. The Association says the practice should be stopped.

The number of hours devoted to class room work at the College of Medicine of the State University of Minnesota has been considerably reduced and some laboratory work has been transferred from the senior and junior to the sophomore and freshman years in order to give more time for clinical instruction and bedside work.

The daily press of Duluth gives more attention to medical matters than any lay papers known to us. The editorials in the News-Tribune especially show an unusual grasp of professional matters, and its influence seems always to be on the right side of medical matters that concern the public. Recent editorials in these papers heartily endorse the Duluth school board in introducing medical inspection in the public schools.

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[NOTICE.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

#### FOR SALE

Drug stores (snaps) with and without practices. Also drug store positions. Anywhere desired in U. S. or Canada. F. V. Kniest, R. P., Omaha, Neb.

#### FOR SALE

Medical practice for sale, including drug store. I must leave in a short time. In the pine woods. No competition. Terms: One-half down on drug stock. Address Dr. J. J. Ratcliffe, Big Falls, Minn.

#### FOR SALE

Betz Body Bath Cabinet for sale cheap. Box 236, Bellingham, Minn.

#### ASSISTANT WANTED

A junior assistant is wanted at the State Hospital for Insane. Appointment for three years. Unmarried; some general hospital experience. An excellent opportunity for thorough training in general clinical medicine and pathology. Maximum salary, \$1,000, with board, lodging, and laundry. References required, and photograph. Address, Dr. H. A. Tomlinson, Supt., St. Peter, Minn.

#### FOR SALE

A practice established over eight years in a city of 2,500 people. Will give practice to purchaser of my office furniture, about \$250. Good town; new railroad being built. Act quick. Address Doctor, Box E, Aitkin, Minn.

#### PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

#### PRACTICE FOR SALE

A good opening for a Scandinavian physician in a good town of 900 to 1,000 population, 40 miles from Twin Cities, with a well-to-do and thickly settled community and large surrounding territory; 90 per cent of population Scandinavian. Have done \$3,000 yearly, and collections nearly 100 per cent. Practice can be had for \$500, just enough to pay for office furniture. Will introduce success. I am going to specialize. Address E. N., care of this office.

#### PRACTICE FOR SALE

A \$3,000 unopposed practice in a small South Dakota town. Collections, 95 per cent. I offer my practice, a good 7-room house, with barn, city water, lawn and fruit trees, etc., for \$2,000; part cash and balance on time. Examiner for two lodges and six insurance companies. Am going into the hospital business. Address S. C., care of this office.

#### ASSISTANT PHYSICIAN WANTED

An assistant is wanted by a physician who has been eleven years in a thriving South Dakota town. The right man will find this a very desirable opening. References are required and will be given. Address, E. H., care of this office.

#### OFFICES FOR RENT

Rooms 216, 217 and 218 Masonic Temple, Grand Forks, N. D., for sublet, to January 1st; all furnished and up to date. Party must be acceptable to Mr. Walker, manager of "The Temple." Phone 8009 T. C. or address J. E. Engstad, Grand Forks, N. D.

#### FOR SALE

A doctor's Maxwell automobile, 20 horse-power; top and extra rear seat and all extras; a \$1,500 car; run second year; warranted to be in first-class condition, for \$700.

Also a Waite & Bartlett static machine; large size; x-ray attachment and twenty-five accessories, \$100. Must be sold at once. Address Box 366, St. Cloud, Minn.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## PULMONARY TUBERCULOSIS AMONG THE SCANDINAVIANS\*

BY GEORGE DOUGLAS HEAD, M. D.

MINNEAPOLIS

The flood tide of Scandinavian immigration to the United States reached its climax in the decade ending with the year 1890, when more than half a million persons from Norway, Sweden, and Denmark landed upon our shores. Beginning with the years immediately following the Civil War this immigration movement gradually increased through the decades to 1890, falling off to some degree in 1900.

So great has been the influx of these people that in the year 1900 the persons of Scandinavian birth immigrating to the United States had reached the great total of about one and one-half millions of people. It was but natural that this hardy race in coming to America should seek a home in that part of the country with climatic conditions similar to those of the land of their birth. We find, therefore, a large percentage of the Scandinavians settling in the Northwestern states: Minnesota, Wisconsin, North and South Dakota, and, to a less degree, Michigan, Iowa, and Nebraska. The state of Minnesota especially received a large part of this immigration movement. It began early in the sixties and has steadily continued to the present day. In the year 1890 Minnesota led all the other states of the Union, with a foreign-born Scandinavian population of 204,000, or about one-sixth of its total population.

The Northwestern states in general and the State of Minnesota in particular would seem, therefore, to be a promising field in which to study out the problems relative to tuberculosis of the lungs among the Scandinavians, dealing especially with the prevalence of immigration in increasing or decreasing the mortality, the comparison of the death-rates among the native-born and foreign-born, and other associated questions of interest.

The Scandinavian immigrants to this country present two pronounced types. The more common one is a tall, long-boned, long-chested individual with ashy hair, blue eyes, high cheekbones, pale complexion, prominent forehead, and active mentally. Physically, this type suggests the build of the American Indian. The second type is short and thick-set with round head, broad features, deep-set eyes, and blonde complexion. These individuals are slower of movement and more stolid in nervous make-up. Both of these types develop pulmonary tuberculosis, the former more frequently than the latter. The Scandinavians are among the most intelligent of our foreign population, are a religious and moral people, and much inclined to settle in rural districts. They are temperate for the most part. In their home-lives they rear large families, live in small quarters, and eat rather poorly prepared food, with little meat. They despise fresh air in their houses and live with the doors and win-

\*Read at the International Congress on Tuberculosis, Washington, D. C., September, 1908.



dows closed. In this respect they are, however, no worse offenders than most of our European population. That they are not a race of weaklings, but a hardy type, is shown by the low general death-rate in Norway and Sweden. Since the beginning of the 19th century the general death-rate in these countries has been progressively diminishing, until today they lead all the European countries, with a death-rate of 16.1 per one thousand living for Sweden, 16.3 for Norway, and 17.5 for Denmark. When, however, we examine the death-records of these countries relative to tuberculosis of the lungs we find that, despite their low general death-rate, they show a high mortality from this disease. The more recent mortality-records, 1900-1904, show Norway with a death-rate from consumption (200.4 per one hundred thousand living) greater than that of any other European country except Russia.

In 1902 Norway had a death-rate of 189.7, standing third in the list of European countries, Hungary being first (383.7) and Ireland second (212.1). In the decade ending with 1900 Norway stood fourth among the European countries and the cities of Sweden fourth among European cities in the death-rate from this disease. It is difficult to explain these facts upon any other ground than that of natural susceptibility to the disease. Pulmonary tuberculosis was unknown among the Scandinavians as early as the beginning of the 19th century. The disease having secured a foothold among this people ignorant of its cause and the avenues by which it was conveyed, spread among them as rapidly as it has among our American Indians. The increased mortality within the last few decades may be explained in part by the emigration of a considerable body of their healthy adults to this country, leaving the sick and invalid to swell the mortality-records at home. That Stockholm, the chief city of Sweden, has decreased its death-rate from consumption 38 per cent in the last decade by the segregation of 400 of its tuberculosis cases in hospitals argues strongly for the view that other factors besides a natural susceptibility are at work in producing this high mortality. If, however, it can be shown that the Scandinavians and their children under the favorable conditions which obtain in their new environment in our Northwestern states, still maintain a high death-rate from tuberculosis of the lungs it would argue strongly for the view of natural susceptibility unless it can be proven that immigration, with the radical changes of

life associated with it, tends to increase the disease among them. It does not seem reasonable to adopt this exception. Immigration selects the young, healthy, ambitious individuals of the race. The weaklings and invalids are left at home.

Tuberculosis of the lungs is not, as a rule, aggravated by a change of climate or environment, even though considerable hardship is thereby endured. In the Northwestern states the native-born of native parents have a very low mortality from pulmonary tuberculosis, and the density of the population is much less than that of Norway and Sweden. The chances of infection, therefore, in the United States for the Scandinavian immigrant are much less than in his native land. While it must be admitted that the draft upon the physical and nervous energy of Scandinavians immigrating to this country is large, it cannot be admitted that it plays any prominent factor in developing latent foci of the infection or producing the disease in healthy individuals. That immigration does not tend to increase the disease among these people is further proven by the fact that at no time has the death-rate in this country from pulmonary tuberculosis among the foreign-born Scandinavians reached the present death-rate of Norway, namely, 200.4 per one hundred thousand living.

The death-rate from pulmonary tuberculosis in the United States has always been low as compared with Norway and Sweden. The introduction of one and one-half millions of Scandinavian immigrants, contrary to what might be expected, has not raised our national death-rate from this disease. From 1870 to 1900, years of the largest immigration of these people, the death-rate from pulmonary tuberculosis steadily fell, and, as our most recent (1905) mortality-records show, is still falling. When we further consider the death-records from this disease for the eleven-year period, 1890 to 1900, in that group of states rich in Scandinavian population, states bordering upon the great lakes and the country tributary thereto, Minnesota, Wisconsin, Michigan, the Dakotas, and Nebraska, we find a lower death-rate from tuberculosis of the lungs than in any similar group of states in the Union. These facts would apparently tend to prove that, even though the Scandinavian in his native land had a high mortality from consumption, in the land of his adoption it is not more prevalent than among the general population. This evidence, however, is not convincing. The states here cited are comparatively young states, settled within the last thirty to forty years. The

density of their population is low, with a high percentage of it rural. They have a low general death-rate. To reason, therefore, that pulmonary tuberculosis cannot be very prevalent among the Scandinavians in this country because these Northwestern states, with a high percentage of Scandinavian population, have a low death-rate from consumption, is to come to a conclusion without sufficient and careful study of the facts. It is only when we examine into the death-records in a state rich in Scandinavian population, such as Minnesota, determining the prevalence of consumption in the foreign-born and the native-born Scandinavians and comparing these figures with the death-rate among the native-born of native parents, that the true facts become known. Before entering into this inquiry I wish to point out what has been already ascertained upon this subject by the United States census studies.

The United States vital statistics have conclusively demonstrated that the death-rate from pulmonary tuberculosis in whites is higher among the foreign-born than among the native-born, and that it is higher among the native-born of foreign parentage than among the native-born of native parentage.

In respect to the Scandinavians, the information furnished by our national vital statistics covers those states included in the registration-area, namely, the New England States, District of Columbia, Michigan, New York, New Jersey, Maryland, Indiana, South Dakota, Colorado, California, and Pennsylvania. The census of 1900 places the death-rate from consumption in the registration area among those born of Scandinavian mothers at 170.3 per one hundred thousand living. The Irish come first, with the high death-rate of 339.6; the French second, with 184.7; the Scotch third; and the Scandinavians fourth. In the census of 1890 in the registration-area in cities the Scandinavians stood sixth among those of foreign parentage, and in the rural district third. In the non-registration states the Scandinavians stood third. The most recent (1905) United States mortality-reports place the Scandinavians second, being only exceeded in the death-rate by those of Irish parentage. In the study by Stone of the Boston death-records for consumption years 1901-1903, those of Scandinavian parentage ranked second in high death-rate, being outranked only by the Irish. These statistics, taken as they are from states in which Scandinavian population is small, probably cannot represent the true death-rate for

pulmonary tuberculosis among those people in the United States.

Minnesota is a non-registration state; however, its vital statistics are complete enough for the purpose of this study. Scandinavians began immigrating into this state prior to the Civil War, but it was not until 1870 and subsequent to that date that they began to settle in Minnesota in large numbers.

In 1890 one-sixth of the entire population of the state was composed of foreign-born Scandinavians. The decennial census of 1905 shows more than one-fourth of the entire population of Scandinavian parentage. Minnesota has for years had a low death-rate from pulmonary tuberculosis. In 1890 the death-rate was 98.5 per one hundred thousand living; in 1900, 105.3; in 1906 and 1907 it was 93.4. This death-rate compares very favorably with that of Michigan, a state similarly situated to Minnesota geographically and with about the same percentage of foreigners and the same rural and urban population. Only in the decade 1880 was the death-rate from consumption in Minnesota unusually high (128.7), and this was due to the large influx of consumptives to the state attracted by the reputed healing value of its pine forests. That the immigration of Scandinavians into the state had nothing to do with the high death-rate in 1880 is proven by the fact that subsequent to that time larger numbers of these people settled in Minnesota, and yet the death-rate from consumption was not increased, but was diminished.

In 1890, 1,291 persons died of tuberculosis of the lungs in Minnesota. Persons of Scandinavian parentage comprising 28 per cent of the total population, furnished 36 per cent of the deaths. The foreign-born Scandinavians, comprising 16 per cent of the total population, furnished 33 per cent of the deaths. The native-born Scandinavians, with 12 per cent of the total population, furnished 3 per cent of the deaths. The native-born of United States parentage, comprising 23 per cent of the population, furnished only 16 per cent of the deaths. The death-rate among the Scandinavians was less than among those of Irish parentage, 125.4 against 138.

The decennial census of 1905 placed the population of Minnesota at 1,979,912. Of this number 37 per cent were of Scandinavian parentage.\*

\*In this study the years 1890 and 1906 and 1907 have been chosen, in order that the mortality-records subsequent and prior to the second generation of Scandinavians might be obtained.



In 1906, 1,832 persons died of pulmonary tuberculosis in Minnesota. The Scandinavians, with 27 per cent of the population, furnished 39 per cent of these deaths. The foreign-born Scandinavians, with 12.8 per cent of the population, furnished 21 per cent of the deaths. The native-born, with 14.2 per cent of the population, furnished 18 per cent of the deaths. The other nationalities combined, with 37 per cent of the population, furnished 31.6 per cent of the deaths. The native-born of native parents, comprising 34 per cent of the population, furnished only 18.4 per cent of the deaths.

The deaths in 1906 per one hundred thousand living were as follows:

For foreign-born Scandinavians.....	156.7
For native-born Scandinavians.....	114.4
Foreign-born of other nationalities.....	95.
Natives of United States parentage.....	49.4
Total of Scandinavian parentage.....	133.9
Total born of other foreign parentage...	79.6
Total of native-born of other nationalities	77.5

The state records for the year 1907 are not very different from those of 1906. Those of Scandinavian parentage furnished 40.3 per cent of the deaths, a slight increase over 1906.

The foreign-born Scandinavians furnished 21.7 per cent, and the native-born Scandinavians 18.6 per cent of the deaths, which is about the same as for 1906. The other nationalities furnished 32.3 per cent, a slight increase over 1906, while the native-born of native parents furnished 18.4 per cent, the same as in the previous year. The death-rate per one hundred thousand living for the year 1907 is as follows:\*

Foreign-born Scandinavians .....	159.8
Native-born Scandinavians .....	116.7
Foreign-born of other nationalities.....	112.8
Native-born of United States parentage..	50.3
Native-born of other nationalities.....	76.4
Total of Scandinavian parentage.....	138.2
Total of other foreign parentage.....	82.5

From these figures it will be seen that the death-rate from pulmonary tuberculosis in Minnesota is higher among the foreign-born Scandinavians than among the native-born Scandinavians; that it is more than twice as high among the native-born Scandinavians as among the native-born of United States parentage; that it is higher among the foreign-born Scandinavians than the foreign-born of other nationalities; that it is higher among the native-born Scandinavians

than the native-born of other nationalities; that it is higher among the Scandinavians native-born than the foreign-born of other nationalities; that the death-rate among the Scandinavians in Minnesota is apparently upon the increase because in 1890 the death-rate per one hundred thousand living of Scandinavian parentage was 125.4, while in 1906 it was 133.9, and in 1907 it was 138.2. This increase in death-rate is largely due to the increase in the death-rate among the native-born Scandinavians because in 1890 we find the native-born Scandinavians, with 12 per cent of the population, supplying only 3 per cent of the deaths, while in 1907, with 14.2 per cent of the population, they are furnishing 18.6 of the deaths.

This high death-rate among the native-born Scandinavians is a matter of great importance to the people of Minnesota and other states with a large Scandinavian population, as well as to the nation at large. On the other hand, the death-rate among the native-born of native parentage is on the decrease, being 68.7 per one hundred thousand living for 1890, 49.4 for 1906, and 50.3 for 1907.

These facts would seem to justify the conclusion that the low death-rate from consumption in Minnesota is due, in part at least, to the low death-rate among its native-born of native parents. This conclusion is further warranted by a comparison of Minnesota death-rates from consumption with those of Michigan in reference to native-born and foreign-born. In 1890 the death-rate among Minnesota's native-born was much lower than that of Michigan (82 for Minnesota, 98 for Michigan per one hundred thousand living), while among the foreign-born Minnesota's death-rate was higher than that of Michigan (143 for Michigan, 154 for Minnesota per one hundred thousand living). The same holds true for the year 1900 (Minnesota 73 and Michigan 99 for native-born; Minnesota 161 and Michigan 125 for foreign-born). The statistics heretofore offered relate to the mortality from consumption among the Scandinavians in the state at large.

To determine the death-rate among the Scandinavians in our urban population the writer has gone over the death-records of Minneapolis, the largest city in the state, with a population of 261,000 in 1905. Minneapolis is a city built over a large area with wide streets, and many parks and boulevards. Its people live for the most part in detached houses. It is in every sense a city of

\*In compiling these figures persons dying of pulmonary tuberculosis whose parentage was not given in the death records were excluded.



homes. Tenement-life in crowded quarters is as yet only in its beginning. Minneapolis has a larger percentage of its population Scandinavian than any other city of its size in the United States. In 1905 the Scandinavians comprised over one-fourth of its total population, 16 per cent being foreign-born and 13 per cent native-born. The city of Minneapolis for the last fifteen years had a low death-rate from pulmonary tuberculosis. In 1890 it stood twenty-third among twenty-eight large cities of the United States in low death-rate from consumption.

So low has been the death-rate in this city from pulmonary tuberculosis that in the 1905 United States vital statistics doubt is expressed of the correctness of the published mortality-records. I have examined the death-records of Minneapolis to ascertain the correctness of the reports published by its health department. While my figures do not agree with those published by the city (for 1905, my mortality is 104.5, and city health report is 93.1, per one hundred thousand living), there is not sufficient difference to alter the position of Minneapolis in its rank in death-rate from pulmonary tuberculosis among the large cities of the United States. That this low death-rate is maintained in spite of a high death-rate among its Scandinavian population the following will show:

In 1890 the Scandinavians, with 27 per cent of the population, furnished 37 per cent of the deaths; the foreign-born Scandinavians, comprising 20 per cent of the population, furnished 30 per cent of the deaths; the native-born Scandinavians, comprising 7 per cent of the population, furnished 7 per cent of the deaths; in 1905 persons of Scandinavian parentage, with 29 per cent of the population, furnished 40.9 per cent of the deaths.

This is a higher proportion than for the state at large, and an increase for the city over 1890. The foreign-born Scandinavians, with 16 per cent of the population, furnished 26.5 per cent, and the native-born, with 13 per cent of the population, furnished 14.4 per cent of the deaths. The native-born of native parents, with 41 per cent of the population, furnished only 27 per cent of the deaths. The death-rates per one hundred thousand living for the city of Minneapolis in 1905 are as follows (these figures were originally compiled per one thousand and were raised to one hundred thousand living, in order to facilitate comparison with the figures for the state at large):

Foreign-born Scandinavians .....	169+
Native-born Scandinavians .....	114+
Natives of United States parentage.....	69+
Total of Scandinavian parentage.....	144
Total of other foreign parentage.....	102

I have compared these figures with those of other years prior and subsequent thereto, and find no material difference in the results obtained.

Among the nationalities, those of Irish parentage lead with a death-rate of 153+ and the Scandinavians are second with 144+, and the Canadians third with 137+. Comparing the records of Minneapolis with those of the state at large, we find the mortality among the foreign-born Scandinavians higher in Minneapolis than in the state at large; that the percentage of deaths among the native-born Scandinavians is lower in Minneapolis than in the state at large; that the percentage of deaths among the native-born of United States parents is higher in Minneapolis than in the state at large; that the low mortality in Minneapolis, as in the state at large, is due, in part at least, to the low death-rate among its native-born of native parents; that in Minneapolis, as in the state at large, the Scandinavians stand next to the Irish in high mortality from tuberculosis of the lungs.

We have thus far been dealing with the death-rate from pulmonary tuberculosis among the Scandinavians. Just how accurately the death-rate expresses prevalence of consumption among these people we have no means of determining. We believe, however, that the mortality-rate is a fair expression of the frequency of the disease. From observation among Scandinavians for the past fifteen years in hospital, dispensary, and private practice, I am of the opinion that when once infected they succumb more quickly to the disease than do persons of any other nationality except the Irish. The foreign-born Scandinavians certainly do not withstand the disease as well as the native-born Scandinavians. We have not been able to observe in their mode of living, habits, or environments any reason for greater prevalence of the disease among them.

The high mortality among the foreign-born Scandinavians is a matter of great importance to our national government. It calls for a rigid physical examination of the lungs of all immigrants from the countries of Norway, Sweden, and Denmark. The high mortality among the native-born Scandinavians is of no less concern to our state and the nation at large. It forces

home upon us the conviction that the native-born Scandinavians do not possess the immunity to the disease possessed by our native Americans.

Two factors play a part in producing this high mortality, the multiplied avenues of infection to which the children and adults are subjected through contact with others of their own nationality, and, second, the lack of resistance to the tubercle bacillus which seems to be a national trait of the Scandinavian people.

Who shall say which of these two factors is the more potent?

That the mortality is less among the native-born Scandinavians than among those of foreign birth suggests the development of a natural immunity, which is the only ray of hope in this dark chapter of Scandinavian immigration in its relation to pulmonary tuberculosis.

The nation and the interested states cannot afford to wait for the slow processes of nature to work out a partial immunity for these people. Preventive medicine points out a far more certain and speedy solution. In the light of our present-day knowledge the most effective method of dealing with consumption among any people,

and especially a susceptible people, is the isolation of those individuals affected with the disease.

From our study of the death-records of pulmonary tuberculosis among the Scandinavians in the state of Minnesota and its chief city and the comparison of the same with those of the registration-area of the United States we conclude—

1. That pulmonary tuberculosis shows a higher mortality among the Scandinavians than in any other race of our foreign population except the Irish.

2. That this mortality is lower in Minnesota than in the registration-area of the United States.

3. That the death-rate among the foreign-born Scandinavians is higher than among the native-born Scandinavians.

4. That the death-rate among the native-born Scandinavians is about twice that of the native-born of native mothers.

5. That the reason why Minnesota and its chief city, with a large Scandinavian population, have such a low death-rate from pulmonary tuberculosis is, in part at least, because of the low death-rate among the native-born of native parentage.

## SURGICAL TUBERCULOSIS—TUBERCULIN— REPORT OF CASES\*

By A. E. BENJAMIN, M. D.

MINNEAPOLIS

In this paper I shall consider, in a general way, some of the more common tubercular lesions that are usually treated surgically. I wish to consider also cases of common interest to the surgeon and internist. I shall report a few cases operated upon and followed by tuberculin, and similar cases operated upon with no tuberculin used, comparing the results.

It is impossible at the present day to draw the line between medicine and surgery in the treatment of certain cases of tuberculosis; as, for instance, tubercular glands of the neck, tubercular peritonitis, tubercular sinuses, etc. Since the study and investigations of Willson and Rosenberger surgeons will be less anxious to operate upon many of these borderline cases.

Pulmonary tuberculosis has been the almost

undisputed province of the internist for years. On the other hand, Tuffier, Lawson, Ferguson, and others have performed successful pneumectomies for tuberculosis. Dr. Frost Willard reports four successful cases out of six where he removed the primary tubercular focus in each case. The historic case reported by Bligney in 1870, in which the accidental thrust of a sword drained a lung abscess, caused some surgeons to operate upon several tubercular lung-abscess cases. Landerer, Garre, and others demonstrated that a lung cavity healed more readily when the ribs were removed over the cavities, allowing the wall to collapse. Murphy, in 1898, advised as a substitute for this treatment the production of an artificial pneumothorax by the injection of sterile nitrogen gas.

As most tubercular abscesses of the lungs empty into the bronchi and are drained, they sel-

\*Read before the Minnesota Academy of Medicine, February 3, 1909.

dom call for surgical intervention, but I am convinced that the rule to evacuate pus, wherever found, will apply in certain cases of pulmonary tuberculosis with abscesses, e. g., where they do not empty early into the bronchi and if situated near the pleura.

*Tubercular Adenitis.*—In considering an operation upon the glands of the neck for tubercular disease we must bear in mind that their involvement is a secondary manifestation of the disease; and the primary source, such as a diseased tonsil, tooth, or antrum, must be properly treated, otherwise the operation is of little benefit and often causes harm.

If we can operate early before the glands have broken down, I believe a thorough removal in mass gives the patient a much better chance of overcoming the disease; and there is certainly less scarring of the neck in healing. After the glands have broken down the infection is often spread by an attempt at thorough dissection of the chain of lymphatics. A curetting and disinfection of the abscess-cavities with carbolic acid and alcohol and the employment of Bier's treatment of negative pressure are of much benefit. As the infection disappears a thorough operation may be followed with better results.

The fact that so many of these cases later develop pulmonary tuberculosis (Demmie reports that 29 per cent die later of this complication) is quite an argument in favor of the tuberculin treatment, as we may possibly establish an immunity if the treatment is carefully followed out in conjunction with the surgical treatment.

#### CASE 1

Olive J., aged 20 years, Swedish.

History: Quite well until of late, some loss of flesh; cervical glands enlarged, suppurating.

She had been operated upon twice for tuberculous glands of the neck. The incision had never permanently healed. She had elevation of temperature at some time nearly every day. Tuberculin treatment was begun after the second operation, beginning with .0001 mg. Hygienic, dietetic treatment was employed also. The injections were gradually increased until she was able to take a dose of 80 mg. The patient had but one reaction, and this was not severe. Patient is now well; the neck is perfectly healed, so that no dressings are worn; the temperature is normal; the weight is 150 pounds; and the patient states that she never felt better.

It took about five months to complete the entire course of treatment.

#### CASE 2

Alice S., aged 13 years.

History: Father died of pulmonary tuberculosis, and the patient has had two operations for tubercular glands of the neck, and has ulcer of the left eye.

Following the second operation a course of tubercu-

lin treatment was begun. The course, which has already lasted over several months, is not quite completed, but the patient received at the last treatment 10 mg. of tuberculin. She has gained thirteen pounds in weight since beginning the injections, and the ulcer of the cornea has healed. She states that she feels splendidly. She goes to school and is the picture of health. Her temperature has been carefully taken following each injection, and so far she has had no reaction. With the tuberculin, hygienic-dietetic measures have been observed. One large gland on the other side of neck from that last operated upon has diminished considerably in size under the tuberculin treatment. Other similar cases where tuberculin was not given have not done as well as these reported.

*Tubercular Peritonitis.*—Tubercular peritonitis, as would be expected, there being a chance to speculate upon what the abdomen might contain, is one of the most debatable of all forms of tubercular disease. The surgeons have secured such excellent results in these cases by the early removal of the primary focus, or by simply opening the abdomen, that they are encouraged to continue.

In 1884 König performed the first operation for this disease, with what was thought to be good results, reporting 75 improvements out of 131 cases. At the present day these cases are being treated by the surgeon and internist, each claiming better results than the other. There are many degrees of severity of this affection, and we should endeavor to determine as soon as possible which form of treatment should be selected. Until the medical man consents to see more of these cases at the time of operation, and until the surgeon observes closely the results obtained by the internist, we shall continue to have the wrong course advised in a certain percentage of cases. Spontaneous cures occur and temporary benefit may be observed after operation in some cases. Drackel, Schmitz, Nothnagel, and Markel believe an early operation should be performed in these cases, while Gotte and Hildebrandt believe in the opposite course.

Tubercular peritonitis so frequently has its origin in the appendix or tubes that I am firmly convinced it is very unwise to treat certain cases, with possible tubercular peritonitis, without operation, especially in the beginning. So many appendices and tubes removed are, upon microscopic examination, found to be tubercular that we can truthfully say we have aborted a tubercular peritonitis if these organs are found diseased and are removed before invasion of contiguous tissue has occurred. This disease is especially apt to produce destruction of tissue in women where the fimbriated extremity of the tubes is not at once closed. If so, it allows



spreading of the disease within the abdomen by the escape of the bacilli from the open end of the tube. This patulous condition exists especially where much fluid accumulates.

How often do we operate late and find the disease has extended from these areas, with the involvement of all the organs in the vicinity? The tubes, ovaries, appendix, bladder, and bowel are often matted together. Cysts of the ovary develop, and mixed infection may follow with abscess, greatly complicating the disease and endangering the life of the patient. In such cases a thorough removal of the diseased tissue is necessary and offers about the only hope of a cure. Great care should be practiced not to tear the bowel, as a fecal fistula may follow. It often persists and is almost impossible to cure. Where the adhesions are too great around the appendix or tubes they should not be disturbed until a more favorable time. Other adhesions should certainly not be molested. The cases operated upon for tubercular peritonitis, so far as I know, are all alive today and most of them in comparatively good health. One case developed pulmonary tuberculosis, went to the country, and I have not heard from her since. Upon some of them, however, we operated two or three times to secure the desired results.

Where a laparotomy has been performed to remove the fluid, a certain number of cases may later develop symptoms resembling a subacute inflammation of the appendix or tubes. These organs are often so prematurely crippled by the peritonitis that an appendicitis, or salpingitis, or abscess of the ovary may continue to menace the life of the patient. A mixed infection of the appendix, because of constriction and obstruction, may supervene and demand operation.

I always urge an early operation upon a person suffering with symptoms of acute peritonitis, appendicitis, bowel obstruction, or salpingitis in whom there are signs of tubercular disease, as pleurisy, adenitis, or osteomyelitis, etc., fearing an acute invasion of the abdominal region with this disease.

#### CASE 3

Anna R., a school teacher; aged 22 years; of Scandinavian descent; weight, 160 lbs.; well nourished, has a hectic flush.

History: Measles twice, first time at 14 years, pretty severe attack followed by cough; measles again at 17 years; pneumonia at 13 years.

When 19 years old she felt played out, and lost weight. Has taught school for two years. In the spring of 1907 she began to have pain in the abdomen, mostly in the right side; was very tired and weak; lost appetite, weight and strength. She finally had to

give up her school. On May 30, 1907, she went to see a doctor, who said she had a chronic form of appendicitis. The abdomen was enlarged, very tender, and she had much pain. She vomited once; pulse, 128; temperature, 99°; enlarged abdomen; dullness in abdomen. Vaginal examination revealed a fixed uterus. Salpingitis and fluid in the abdomen.

The peritoneum was incised and the omentum pushed back. Four quarts of clear serous fluid escaped. The pelvic organs showed dense adhesions. The tubes were so changed by the inflammatory process as to be almost unrecognizable. The right ovary was large, cystic, and infected. The disease seemed to be tubercular. Both tubes and the right ovary were removed. An attempt was made to examine the appendix, but the cecum was found to be completely buried in a dense mass of adhesions, and it was not disturbed. The operation was done on June 14, 1907. The abdominal wall infection was slow to heal, and the sinus continued up to the second operation. Some gas and fecal substance escaped at times through the sinus.

Second operation: On January 25, 1907, the old scar tissue was removed very carefully. The appendix was investigated. No mass was found around the appendix. The cecum was bound down and surrounded by adhesions. Some broken-down mesenteric glandular tissue was removed, and the cavities were swabbed out with carbolic acid. The peritoneum was studded with tubercles of which a few were removed for examination. Tuberculin was given. The patient was in the country for some time. She writes one month later that she has gained forty pounds in flesh and is feeling perfectly well, except a very slight, discharging sinus.

#### CASE 4

Clara P., a stenographer; aged 24 years; weight, 125 pounds; very pale appearance; German-American; pelvic abscess; operation, May 17, 1907.

Seven months ago she had pains in the lower abdomen; worse on the right side. Chills and fever. Post vaginal incision made, and a considerable quantity of thick pus was evacuated. There was a similar abscess cavity on the left side.

Second operation, June 11, 1907. Median incision; omentum found adherent to bladder; left ovary and tube adherent to intestine; sigmoid flexure bound down over ovaries; tubes and uterus firmly adherent to the bladder; both ovaries cystic; some pus in left side of the pelvis, and an abscess found on the right side of the pelvis. The right ovary and tube, together with adhesions and wall of pus-cavity, were removed in a mass. Three cysts removed from left ovary. Left tube removed. Stump of omentum which remained adherent to bladder was drawn together and tied lest the bladder might have been opened. The patient had a hard pull for about ten days, finally improving, but was left with a discharging sinus from which blood would flow at each "period."

Third operation, January 23, 1908: Patient in fine general condition. Has gained sixty pounds in weight. The old discharging sinus was treated with carbolic acid followed by alcohol and curetted. A longitudinal incision that removed the old scar was made. Several nodules were found underneath the peritoneum. The omentum was adherent. Remains of the old ovary on the right showed cystic condition. The ad-

hesions were separated with great care. The sigmoid was loosened up from the abdominal wall. The left ovary was resected, and the sinus wall removed. This case was one of gonorrheal and tubercular infection. The sinus continued to discharge until tuberculin was used, which produced a cure in about six weeks.

## CASE 5

Myrtle T., aged 16 years, weight 129 pounds, school-girl, American.

Diagnosis: Appendicitis, peritonitis, and pleurisy. Family history good, except one brother who died at 16 years, of tuberculosis.

Feb. 24, 1906, had pain in the stomach all night. Pain in the region of the left side below the heart. Repeated attacks of vomiting with intense pain all the time, and fever. Vomited greenish matter. Grew worse, and on February 26th, she was brought to Minneapolis.

First operation February 26, 1906: Perpendicular incision was made external to the rectus. Pus and serum escaped from the wound. The appendix was found adherent, deep in pelvis. It was not removed. A considerable discharge of thin matter escaped from that point through the incision. An one-inch rubber tube was placed down to the appendix.

Second operation August 28, 1906: The patient had left the hospital in April and went home where she remained in bed for two months. An incision was made just inside the old scar. Upon opening the abdomen numerous adhesions were found, and the cecum was found to be adherent to parietal peritoneum inside of the old scar. The lymphatic glands at the base of the appendix and also those of the cecum presented a cheesy, tuberculous appearance. One was broken down and formed a small abscess. This was swabbed with carbolic acid and alcohol.

The patient, after a stormy convalescence and several tapings of the chest to remove serous accumulations, finally got well and remains so, as far as I know, at the present time. No tuberculin was given.

## CASE 6

Mrs. R., aged 35 years; small build.

Diagnosis: Lupus of the face, healed several years ago. She has been suffering four months with abdominal and pelvic disease, and arrived at the hospital in a very much weakened condition on May 1, 1903. The hemoglobin was 35 per cent, and the leucocyte count was between eight and twelve thousand. A mass could be felt in the right pelvis.

Operation June 11th. Very little ether was given, and cocaine was used for the abdominal wall, to make it possible to use less of the anesthetic. Tubercular peritonitis was found, and a tubo-ovarian abscess was present. The appendix was enlarged and inflamed. This was removed. The adhesions were very extensive throughout the pelvis on account of the tubercular peritonitis. The right tube and ovary were removed.

The patient fully recovered and remains well up to the present time, although she is not strong, and for a year or more after the operation she had more or less abdominal pain and constipation. No tuberculin was given.

Other cases with abscesses not treated with tuberculin had sinuses which continued to discharge for a much longer period. Tubercular infection involving the peritoneum usually healed quickly without tuberculin. They did not suppurate, but the cases with broken down tissue and abscesses had a prolonged convalescence, especially where it was impossible to avoid wound contamination.

*Tubercular Osteomyelitis.*—In 1896, I operated upon Mrs. McG., aged 38 years, married, Irish. Family history, good. She was taken ill with disease of the tarsal bones. She had been treated for rheumatism. It was found necessary to remove the inner, middle and part of the outer cuneiform bones, parts of the scaphoid and cuboid. Iodoform emulsion and packing gradually overcame the disease, and the foot healed, but during the convalescence the patient developed quite a cough. Tubercular bacilli were found in the sputum. Fresh air and hygienic treatment restored the patient to health. The arch of the foot was supported with a steel sole. No sign of the trouble, pulmonary or otherwise, has appeared since.

At the present time I have under observation a man of 35 years who developed tuberculosis of the foot and right thumb four years ago. It became necessary to amputate the leg below the knee and also to remove the thumb. A disease of the fascia extending up the wrist and forearm later made it necessary to strip the muscles and tendons. For the last two years he has had a very small sinus discharging at the wrist. He is now getting tuberculin, and I trust to be able to report a cure by this method, all others having failed so far.

We must remember that tuberculosis of the bone begins in the bone, and a tubercular arthritis usually is the result of neglected bone disease. I am always suspicious of cases treated by the cast- or the rest-treatment. It does seem that these cases have frequently, as in my own experience, later developed a more serious form of the disease, with unfavorable results, especially where there has been a breaking-down of tissue with pus-formation or a mixed infection when the disease progresses, so that if the tissues outside of the bone become affected it is almost impossible to stay the ravages of the disease, the fascia becomes involved, and the limits of the infection are unbounded.

How much easier it is to operate upon these cases early, being careful to avoid infection of the surrounding tissue and properly disinfect the



cavity, than to allow the bone to become so thoroughly disorganized that weeks and months are necessary to reproduce the bone-tissue lost and which might have been saved by timely surgery. There may also be less systemic infection.

*Tuberculosis of the Kidney.*—So far I have not treated with tuberculin any case suffering with tuberculosis of the kidney, but where only one kidney has been affected the removal of the unsound organ has given good results. A sinus may persist for some time if the peritoneal fat or peritoneum and fascia are involved. One case had a sinus lasting about eight months. Another still has a small one. She is otherwise well.

Tuberculosis of the testicle is not a very common form of the disease. An injury may be the exciting cause, as in malignant disease. A case recently operated upon for a tubercular sinus resulting from a disease of the fascia, following removal of the testicle, five months previously, still has a slight discharging sinus. Tuberculin was given in this case for a time, but as the patient went back to his home in Montana I have not heard whether he is keeping up his treatments there or not. He was advised to do so. He was about well when I last saw him.

This disease usually begins in the epididymis and extends upwards. It may involve the bladder, the opposite organ, or the kidney. In such a case the removal of one testicle, or both when they are both diseased, does not cure the patient. It is not necessary in some cases to remove the organ. An epididymectomy performed early may be sufficient; at least, I think we may expect 50 per cent will be cured, and possibly as great a per cent if the testicle is removed in moderately advanced cases.

There are some cases that do not secure any benefit from tuberculin. A type of such cases is the following. I have at present at the hospital a woman who for two years has suffered with tubercular diseases of the sacro-iliac joint and fascia around the hip.

The bone disease has been apparently cured but the fascia around the hip-joint and between the glutei muscles is greatly affected. She runs an irregular temperature, ranging from 99° to 103°. A thorough opening into the diseased areas has been made, and drainage established. A thorough treatment by tuberculin, beginning with small doses, did no good, nor has any other form of treatment accomplished much benefit. Bismuth and wax paste has been tried without results. The patient is anemic, thin, and weak,

and in no condition to stand more surgery. The last operation was followed by delirium and an unconscious state for about two weeks, with final restoration to normal mentality. She is somewhat better, but occasionally has chills and fever. She is able to be in a chair part of the time now. This woman has signs of an old lung apex involvement.

I have not attempted the use of tuberculin in other cases of multiple points of infection, thinking it would be of little benefit.

#### CONCLUSIONS

In considering a case of tuberculosis, the primary focus of infection should always be sought. The bacilli often gain entrance into the system through a diseased tooth, tonsil, or from adenoid growths or other diseased cavities, such as the antrum; through the alimentary canal by lodgment in the appendix or some other portion where stasis exists; or through an ulcerating surface. In the female the tube is one of the primary organs affected. A careful observation of suspicious cases and watching for any variation in temperature will often suggest some positive lesion.

When secondary involvement of lymphatics, lungs, pleura, peritoneum, bone, or glandular tissue, is present the amount of tissue affected should be determined.

Where there is not a general involvement, and localized lesions are accessible, without further endangering the life of the patient, or spreading the infection, these lesions should be removed.

Where it is not possible to remove the diseased organ completely it occasionally happens that broken-down tissue can be excised or the abscess drained, and in this way the patient may be given sufficient time for re-action and power to overcome the invaders.

These secondary lesions may constitute diseased lymphatic glands of the neck, axilla, or mesentery. Within the abdomen an operation often means removal of the tubes, diseased ovaries, appendix, or, in selected cases, even a portion of intestine.

Operations are indicated, occasionally, as incidents to a tubercular disease of the peritoneum, as with great accumulation of fluid. The operation gives comfort, and frequently, by increasing the hyperemia and the supply of oxygen, starts the patient on the road to recovery. In no instance does it mean the separation of extensive adhesions, unless to remove a decomposing mass that in itself menaces the life of the patient.



In bone involvement our decision should be for operation in cases where there are signs of breaking down of tissue with possible escape of the disease into a joint or soft outlying structures.

In all these cases we should not lose sight of the fact that good food, clothing, air, sunshine, and proper living are necessary, and frequently, also tuberculin.

#### DISCUSSION

DR. GEO. D. HEAD: It is gratifying to have presented to the Academy by Dr. Benjamin his results from the use of tuberculin in the treatment of surgical tuberculosis.

In the use of this toxine it is important that we should have definitely in mind the object to be attained. That we cannot produce an immunity to the tubercle bacillus which is lasting has, I think, been pretty definitely determined. On the other hand, we do know that repeated increasing doses of tuberculin will so affect the organism as to make it tolerant to very large doses, and we can thus produce toxine immunity, which is helpful to the organism in its struggle to overcome the tubercular process.

That the tuberculin has some healing influence upon the lesion itself must, I am sure, be admitted. This has been demonstrated experimentally in animals, by Koch, Kitasato, and Trudeau. These men have been able to heal tubercular skin lesions in guinea pigs by its use. Likewise in human beings with lupus the tuberculin stimulates repair of the skin lesion, which, while it does not often go on to complete cure, affects favorably for months the local process.

I have observed a number of apparent cures of

tubercular lesions in the lung and elsewhere by one dose of tuberculin given for diagnostic purposes in which there was a pronounced reaction followed by a rapid clearing-up of all symptoms, and the restoration of the individual to apparent health. In the paper read tonight the writer refers to a number of cases of treatment, but were healed by the use of tuberculin. While, in the main, therefore, we must look upon the action of tuberculin in the light of a "toxine immunity" we must recognize the effect which it has upon the local process, wherever located in the body. My experience with tuberculin in surgical tubercular lesions has been limited. I am sure that its effects are beneficial in some cases of tubercular glands of the neck and tuberculosis of the kidney. The peritoneum I have had no experience with bone tuberculosis.

It should be used in conjunction with well-known surgical procedures for the specific organ affected, although I firmly believe that the surgery of the future will deal much less radically with many of these lesions than the surgery of the past has done. Much more will be left to nature, fresh air, good food, and the proper regulation of the life of the individual.

There is one thing more which I wish to say relative to tuberculin. It seems to me that its use should be left in the hands of those men who have had experience with its effects. Tuberculin is a two-edged sword, and harm may result from its injudicious use. Great care should be exercised in the selection of proper cases, in the dosage given, in the progression of the dosage, etc., all of which requires experience. We cannot all master everything in medicine and surgery. To give our patients the best service requires a division of labor, each man doing that which by training and experience he has learned to do best.

## SURGICAL TREATMENT OF ROOTS OF LOOSENING TEETH\*

By THOS. B. HARTZELL, M. D. DD. S.

MINNEAPOLIS

To one privileged to listen to the papers read before this Association, it would seem that the keen minds of the medical profession must surely have left but little of interest in the pathological field uninvestigated; and so it is not without some hesitation that I have drawn your attention to the condition illustrated by the two cases which I present for your inspection. They show the most common suppurative infection to which humanity is heir, found, to a greater or less extent, in at least seventy-five per cent of the mouths of the people, resulting in the loss of not less than one-half of all the teeth of the human race. This disease, variously called Riggs' disease, alveolitis, pyorrhea alveolaris, interstitial gingivitis, etc., is easily preventable, and is surely curable. It is generally painless, at least until in

its last stage; and is easily diagnosed when once the observer has noted a typical case.

It is induced by traumatic irritation of the gum margins, through the medium of salivary calculi and sordes collecting about the necks of the teeth, and mal-occlusion, which always means that the thousands of pounds of force expended by the muscles of mastication is unevenly delivered against the teeth, causing congestion and inflammation of the surrounding soft tissues and bone.

How great an irritating factor this may be can be better understood when it is realized that investigators agree that the average force expended against the teeth is seventeen hundred pounds per day. The disease is also induced by bruising the gums during mastication where the teeth are so spaced as to permit food to be driven in between them. In fact, any influence that

\*A clinic, presented at the fortieth annual meeting of the Minnesota State Medical Association, October 6th and 7th, 1908.

tends to congest the tissues which surround the tooth-root will cause resorption of the margins of the bony socket, thus leaving the gum unsupported, covering the tooth-root like a sleeve.

Infection is not usually noticeable until a slight resorption of the margin of the bony socket occurs, thus creating a pocket into which bacteria soon penetrate and occupy the stump holes of the fibers which united the tooth-root to the bone of the socket, thus gaining a permanent culture-bed, which can be gotten rid of only by carefully planing or curetting off the porous pitted surface of the root under the gum. This operation must be done with great care to be of value, because the porous layer is thin, (less than a hundredth of an inch), and rests on a hard thin layer, which is interposed between the pitted layer and the bone of the cementum proper.

The aim of the operator is to expose this layer without cutting through it, which would, of course, expose the lacunæ and canaliculi to infection, thus putting the patient to the inconvenience of a useless operation. Thus, you see, the value of the operation depends on its accuracy.

Each of the cases exhibited shows the disease in full flower in the right half of the mouth, the gums being swollen and bluish in color, with a tendency to bleed on touch; and also exhibits two easily demonstrable diagnostic factors, namely, deep pockets into which you may push a probe, and pus which may be squeezed out by gently stroking the finger toward the gum margin. This pus seems always to be of several varieties with the yellow plant predominating.

The left half of the mouth in each case is free from swelling, the gums pink and hard, and suggesting health; and while pockets can be shown

to exist, it is painful to the patients to probe them, because the gums hug the necks of the teeth so closely.

One of these patients was treated several months ago, the other only two months ago, but there can be seen no evidence of re-infection in either case. I have carried this experiment on for a full twelve months in other cases with the same result as shown in these cases, which seems to prove the operation one worthy of a place in the schools of the country.

First and most important in preventing recurrence in treated cases, as well as in preventing new cases, is to keep the soft tissues in a perfect state of health by vigorously massaging the gums with azone or any stimulating astringent antiseptic wherever a disposition to bleed occurs, and, of course, at the same time correcting occlusion and restoring contact where these needs exist.

On account of the more or less constant flow of pus, this disease is a menace to health, constantly interfering with digestion, and not infrequently being responsible for acute suppurative infections in other parts of the body. The writer has knowledge of two cases of septic endocarditis, each of which ended in death, wherein the only other suppurative foci were the gums and alveolar process, which in each case were vigorously infected. It would seem therefore to be eminently worth while for physicians to examine more closely the mouths of their patients, not trusting to the dentist alone, as it lies in the physician's power to often prevent more destructive troubles by instructing the patient regarding these oral infections. This course would greatly lengthen the life of the teeth, and perhaps save the patient more serious illness.

## PHYSICIANS' INVESTMENTS

(A Series of Five Papers)

CITY BANK STOCKS—FIFTH PAPER

BY F. A. CHAMBERLAIN

President of the Security National Bank of Minneapolis

MINNEAPOLIS

City bank stocks as investments have long been a favorite investment for business men of wealth, who are in position to keep closely in touch with the business situation and whose opportunities are good for judging the merits of the management of the institutions in whose stock they are investing.

"The man who first invented interest beat them all," is an old adage. He was unique. But the borrower,—the man who not only expends and uses all that he has today, but seeks to get something belonging to his neighbor to spend,—was not invented: nature supplied him ready-made. Even Mother Eve wanted an ap-

ple which it was highly improper for her to have.

The man who is inclined to save a part of what he has for future use is much more rare than the borrower. The inventor of interest sought to loan a part of his possessions for profit; human nature furnished him the opportunities. He soon learned the desirability of having safe facilities for keeping his possessions; otherwise, some of the more eager of the borrowing class might get possession of his money without the usual formality of paying interest. The saving neighbor, noticing the lender's facilities for keeping these safe, sought to avail himself of those facilities by depositing his money with the lender. At first the lender made a small charge for his services. However, he soon discovered that these deposits were not called for promptly and that he could make a profit out of them by loaning them. Gradually his profit from that source increased, so that he was willing to receive the deposits without compensation for their safe-keeping. As the business grew, he even found that for deposits which were to remain with him a definite time he could afford to pay interest himself, for the sake of having the money to loan again. The conjunction of the lender and borrower and the accumulator gave rise to the bank.

Banking as it is now carried on is almost entirely by corporations under either national or state supervision. The affairs of the bank are managed by a board of directors, chosen by the stockholders, and by executive officers, elected by the directors. A close study of the growth of the leading banks of New York, Chicago and some of the other large cities of the country, shows that investments in their stocks for the past ten or fifteen years have been very profitable. In addition to the supervision mentioned above, banks in the large centers in many cases have clearing-house supervision, as well. All of this has a tendency to lessen the dangers of mismanagement and to make the business of banking safer. Where one can know that the affairs of the bank are well administered, and the deposits of sufficient volume in proportion to the capital, and obtained at not too great a cost, bank stocks will prove more remunerative and safer than most industrial stocks. I am of the opinion, however, that stocks of all kinds should be left out of the category of investments for trust funds or for the accumulated capital of professional men.

The successful physician, or anyone who at-

tains eminence in his profession, is so in love with his work and so zealously striving to perfect himself in it that he has little taste for the mastery of the knowledge of conditions which is necessary, or the acquiring of the investor's instinct which is essential, to the successful investor in stocks. A professional man with the right views of life will secure his greatest rewards along the lines of duties performed and success achieved while expending himself, rather than in the mere financial returns which he is able to secure. At the same time, while not lowering the ideals of his profession, it is his duty to himself and to those dependent upon him, to put aside, consistently and constantly, a part of his earnings, that there may be a competence for the future years of himself and his dependents. In the pursuit of this obligation, he must not only save money, but must see that his savings are working, in order that their wages may be added to the fund which he is building. The insurance companies and savings banks of the country are the largest trustees of individuals, and experience has pointed out, and the laws of the different states have prescribed, the kind of investments which have proven the most remunerative consistent with safety. Their investments are largely in first mortgages on improved real estate or in the higher grades of municipal or railroad bonds. If, then, the professional man will confine his investments to this class of securities, he will be safe and will secure, say, a rate of four to five per cent on his principal.

The physician who reads this may think it will be slow work to accumulate a sufficient fund which placed at interest will produce a living income. But if he will recall the investments which he may have made, or which may have been made by his professional friends, in some of the many schemes which promised such alluring returns, he will probably conclude that it is better to "play safe." If all that he has to invest is his surplus earnings, and if he is so absorbed in his professional work that he has not the time to give to a thorough study of securities, he should, by all means, buy only the highest grade of underlying bonds or mortgages. The investor needs to be a highly trained man: he must be a good judge of property and of property values, not only in one locality, but in different localities, and must know what the probable effect of changing circumstances will be and what are likely to be the developments of the future. In dealing with municipalities,



he needs to know the temper of the people, the purpose of the issue of securities, the probability of political revolutions, and the disposition of the people to repudiate or delay their obligations.

It is extremely difficult to keep riches when acquired. Long before Solomon's day the people had learned that money is elusive, that it takes wings and flies away, that it is harder to keep than to make. These adages are all true, and naturally so. When the poor man is gradually earning and acquiring, although recognized by the wolves to be a lamb, they nevertheless consider that he is not yet quite "ripe," and consequently he is not likely in that stage to be molested. As soon as he is known to have acquired something, then the wolves are after him, and oftener than not they succeed in separating his money from him. Physicians as a class are known to be susceptible to the arts of the schemer, who regards them as his natural prey, and, sooner or later, he calls to claim his own. As a class, professional men and salaried men should never speculate, should not take un-

necessary chances, but should avoid debts and liabilities of all kinds, and should never invest in anything with a prior lien on it. If a man takes a second mortgage, then he must always be prepared to pay off the first mortgage, or he runs great risk of losing the money he has invested.

But what is the professional man to do? The best general rule that can be laid down is that hinted at above. Let him confine himself to those investments in which the larger trust companies and savings banks are authorized by law to invest their funds. A second rule, equally important is that, he should always and everywhere turn a deaf ear to the man who has some stock or other form of investment to sell where very large profits are promised. The peddler dealing in such things is usually a man who himself has not made a success of investment; and while he may be honest in his intentions, his anxiety for his commission is uppermost in his mind, and he is not a safe man from whom to take advice.

## A CASE OF SPINA BIFIDA

By W. H. AURAND, M. D.

MINNEAPOLIS

Baby M., weight 8 lbs., was delivered August 17th, and resuscitated with difficulty. On examination it was found to have a tumor the size of a baseball which extruded at the upper left side of the sacrum. The sac was ruptured at birth and discharged yellow serous fluid.

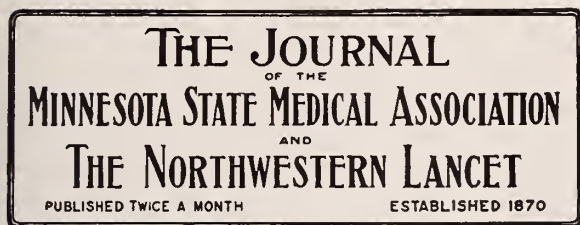
The child lived about 40 hours and continuously emitted a groan, as if in pain. On examination of the sac after death it was found to contain about 2 inches of lower segment of the cord, which was intimately connected with its wall. The child was a male and otherwise perfectly developed.

The mother of this child was not strong and when first seen by me on April 5th, her hemoglobin estimate was only 60 per cent. After taking Bland's mass pills continuously, on May 22d her hemoglobin showed 82 per cent, and she seemed very well, physical signs of any organic trouble being absent. Following normal labor her recovery was rapid.

According to Humphrey, spina bifida is due to an early failure in development in most cases before the cord is segmented from the epiblastic layer from which it is developed. Hence it re-

mains adherent to the epiblastic covering, and the structures which should be formed between the cord and the skin are undeveloped. For this reason we have in the wall of the sac a fusion of the elements of the cord, nerves, meninges, vertebral arches, muscles, and integument. If the error in development occurs late, the cord and nerves may be attached to the sac, but not intimately fused with it. In still other cases the cord does not enter the sac at all. The malformation may occur before the central canal is closed; or, if closed, it may reopen from the accumulation of fluid. It is probable that the accumulation of fluid first occurs, and that this prevents the union of the parts of the vertebral arches.

Although the tumor is generally associated with a bifid spine, this is not necessarily the case. The protrusion may take place through the intervertebral notch or foramen, or there may be a fissure, and an anatomical tumor projecting into the cavity of the thorax, abdomen or pelvis,—spina bifida occulta. The principal anatomical varieties are: meningocele, meningomyelocele, and syringomyelocele (Holt).



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OCTOBER 15, 1909

## OSTEOPATHIC INFANTILE PARALYSIS

This is not a subject for jest by any means, particularly when the St. Paul Pioneer prints a letter from an osteopath who volunteers information and advice about this dreaded disease. The writer of the letter opines that "it is time that the laity should be informed on the subject. The disease is truly an inflammation of the coverings of the spinal cord and may extend up to the higher centres, but usually is confined to the cervical and dorsal regions of the cord, and I hold that the osteopath can control the inflammation."

The writer adds a P. S.—"Now, Mr. Editor, (of the St. P. P. Press) I hope this finds room in your paper, and I only wish I could talk with you. I would have lots to say, but am a busy man and can't get away."

Oh, wise and learned osteopath! Why do you not leave your city, where no epidemic exists, and hasten to the twin cities to help the afflicted?

Your services would be in demand. Any man who can foresee the development of an infantile palsy is the very man physicians have been look-

ing for. If there is anything distinctive or diagnostic in the premonitory symptoms of poliomyelitis it should be heralded broadcast.

The general practitioner who has seen many cases of this present epidemic has been unable to prognosticate the outcome, and, unfortunately when the paralysis is present and the destruction of the cells in the gray matter is evident, he has been unable to avert or cure the terminal symptoms. In some instances the infection has been mild and the paralysis, if present, has cleared away.

In the majority of instances permanent palsies or death leave a scar behind.

It has been decided by the local health authorities that the present epidemic is due to an infection but it is not contagious. What the infection is remains to be discovered.

How it is carried is a mystery.

Why it selects certain gray cells for complete destruction is unaccountable. If osteopathy can cure poliomyelitis, a tremendous benefit to the afflicted is within reach but if osteopathy like electricity fails to restore a destroyed nerve cell our hopes will again be dashed to earth. Foolish advice and foolish theories always follow an epidemic. The truth will come out after long and careful research and no daily paper should print such trash without proper investigation and without consultation with scientific authorities.

## PRESCRIBING BY CORRESPONDENCE

Here is a letter from an enterprising firm in Minneapolis written to the mother of a tubercular patient in a country town.

The head of the firm was formerly known as "Professor" Cunningham and his pamphlets on and promises to cure tuberculosis led to an investigation of his "Sanitarium." He has retired now to the correspondence counter and evidently finds the sales easier to manage. This letter is very much like hundreds of others from exploiters of bogus remedies and one can readily see the effort to keep within the lines that do not positively commit the writer to cure the victim.

A mass of words with a subtle appeal to buy the remedies are usually successful in promoting a sale. This letter was sent in by a physician as an illustration of one of the methods of deluding the uninitiated. If every physician would use the same care in advising and warning his patient against quackery there would be less money for the fakir.

It is astonishing how many innocent people are

defrauded of their money by blatant advertising sharks.

Occasionally the loser wakes up to the fact that he has been victimized and succeeds in getting a part of his money back but it takes courage and usually a good lawyer to frighten the quack into submission.

The man who advertises to cure disease and then extorts or extracts money in advance can invariably be put down as a quack.

This letter speaks for itself:

Mrs. Blank:

Your Letter Received Inquiring of us about Our Tuberculosis Remedys.

Well We Have a Tuberculosis Cure if the Patient is Not too far gone With Mixed Infections Broken Down Tissues and Destroyed Metabolizing Cells We Can Positively Make a Cure.

You Say your Daughters Ailment is of over one years Duration, of Course you Know the Beginning was of a Tubercular Nature, and Invariably Cases of So Long Standing are in a Tribile Condition, in Some Instances there are Tuberculosis Lessoins.

Now Mrs. K we can Not Say what we Can Do for Your Daughter With So Migor a Discription of the case, but we will Say This if She Will give our Remedies a Months Trial then we can Tell you what we could do.

Now We Do Not Want to Misdlead or Disopoint you or Misrepresent our Treatment for the Purpose of Making a Sale.

We Have a Positive Cure for Tuberculosis In the Inciperant stages, and Have Made Several Successful cures in Tibrile Conditions.

We will Be glad to Render you and your Daughter any assistances that we Can Conceously Do if your Daughter would Show Some Improvement under 3 or 4 Weeks of Our Treatment we would Have Hopes of Making a Complete Cure untill then we Could Promis Nothing; unless I had the Oppertunity of Examining the Patient Thoroughly I Never Make a Statement.

Our Complete Treatment for one Month Costs as Follows,  $\frac{1}{2}$  Pound Bottle of Katastas \$275— $\frac{1}{2}$  Pound Firestone Salt with Blower \$3.00 100 Eliminating Capsuls \$150 2 ounce Inhalant Oil with atomizer \$2.00 Making a Total of \$9.25.

We Have Considerable Confidence that the Treatment Will Help your Daughter and that it is well Worth your while To Try it, if it

Do Not Show its Efficiency in one Month it Would Be useless to Continue it.

The Treatment is very Simple and Easy to Take I Will give you all the Nessary Instructions or Send them to your Phsyician.

Now Mrs. K Do Not Canstrue this Letter as Turning your Daughtes Case Down I Do Not Intend to Do So, I Simply state the Truth to you as I understand it, I am then Leaving the question of Expense of Treatment Entirely With you and your Daughter.

if you Feel able to Send Me \$9.25 I Will Send you the Medicines with full Instructions Regording there administration also a Complete List of Dieting while in that weak Condition.

Pardon Me For Not using Exagerated Inducements to coax you to Buy, I Simply Sell My Preparations on theare Merrits and Will Not Misrepresent them under any circumstances.

Inclosed Please find Some Litrature about our Treatment.

Your Very Truly, \*

Prof. Thos. C. Cunningham.

#### AMYOTONIA CONGENITA

In the May, 1908, number of "Brain" Dr. James Collier describes a comparatively new disease. The malady was first described in 1901 by Oppenheim and the first case recognized or discovered in England occurred at the National Hospital in 1907. On account of the new and striking clinical symptoms detailed in 1901 it has been called *Maladie d'Oppenheim*.

In 1903 Dr. F. E. Batten showed three patients before the London Neurological Society and described them as cases of "Myopathy of an Infantile Type." The disease is not to be confounded with that of poliomyelitis as it is ordinarily understood, but some of the fulminating forms of infantile paralysis in which the paralysis was extreme or involved the brain stem and which terminated fatally within two or three days, suggest a possible parallel.

The name Amyotonia Congenita which Dr. Collier has given to the cases he and others discovered and studied indicates the underlying pathology. "A careful search through the history of the recorded cases for any possible antecedents and factors in causal relation with this strange malady have thrown no light upon its etiology."

The paralysis may be present at birth or may appear at the end of one year. It may not be discovered until the child attempts to sit up. It



has been found to follow a bronchitis, a diarrhea or a pneumonia. It has been found more frequently in males and is not hereditary in type.

The onset is uncertain as it is in other peculiar nervous conditions overlooked in young children.

The clinical symptoms are mainly referred to the muscular system. The affection is always strictly symmetrical upon the two sides, it may be universal in distribution but the muscles of mastication and deglutition seem always to have escaped. The lower extremities are most often involved, next the upper extremities, then the trunk and lastly the face. There is no local muscular atrophy comparable to the local atrophy which is characteristic of all cases belonging to the group of the myopathies.

Contractures are usually severe.

The condition of the muscles is one of complete tonelessness with the preservation of some degree of voluntary power. The limbs can be placed in the most extraordinary positions without causing pain. A mother in describing the flaccidity of the muscles said: "By whatever part of the body I held him up, all the rest of him hung down like so many pieces of yarn."

Extreme hyperextensions of joints occur. One cannot distinguish by touch between the skin, the subcutaneous tissue and the underlying muscle. There is no fibrillation.

The loss of muscle tone is so great that the patients are unable to sit up and the head rolls around the circle which its attachments limit. All muscles respond to the faradic current but a strong current is needed to demonstrate this action and even this causes little if any pain.

There are no mental symptoms, no disorders of sensation, nor of the special senses and no sphincter paralyses. The superficial reflexes are present but the deep reflexes are lost. The general health seems good and strange as it may seem there is a spontaneous improvement under appropriate treatment but it never reaches complete recovery although the deep reflexes may return.

This is not the course in the ordinary myopathies.

The treatment is directed to the general nutrition by massage, faradism, strychnia, iron, cod liver oil and malt. The pathology as outlined by Spiller points to muscular regression and the absence of any appreciable abnormality in the peripheral and central parts of the nervous system.

Other pathologists found an arrest in the de-

velopment of nerves but no neuritis. Lesions of the thymus and thyroid glands and the hemolymphatic system have also been found. In the severer cases changes in the nerve roots have been found.

### COMMISSION-PAYING DRUGGISTS

Many years ago it was rather a common custom for druggists to offer physicians commissions for prescriptions written. The practice grew to such a degree that the public discussed it with great freedom, and almost all physicians were placed under the same ban, and it was universally supposed that every druggist paid a small commission to every doctor. But as the physician grew in experience and in moral tone, there was less of this pernicious practice, and now it may be safely said that no self-respecting physician will accept a commission of any kind from a druggist.

It is also the custom for some physicians to walk into his favorite drug-store, and take half a dozen cigars from the case, or to fill his pocket medicine-case, or to help himself to minor articles from the druggist's stock.

In some of the small towns this practice evidently still prevails and sometimes to an unusual degree. The druggist, in order to gain the goodwill of the physician, and incidentally to secure all of his prescription output, supplies the doctor with an office, rent free. This may seem in itself a harmless business proposition, but in reality it is a part of the commission-paying problem. The doctor is under obligations to such an extent that he must divert all of his influence, and that of his patients, to a particular drug-store. Not infrequently the druggist supplies the doctor with his telephone, and usually supplies him with all his necessary prescription-blanks. This leads, of course, to a close compact between doctor and druggist. Each diverts every possible patient from one to the other. A man comes into the drug-store, inquires to what doctor he should go, and, very naturally, the druggist sends him to the commission-receiving physician.

In some places there are physicians who are high-minded, and who refuse to entertain any proposal the druggist may make which has a commission-paying prospect. It is impossible oftentimes to detect the relationship between the suspected parties, as both are bound to the unwritten law of secrecy.

These unfair business methods are bound to come out, and it is not long before other physi-

cians in the same town, or in neighboring towns, learn of the agreement, and it very naturally creates a good deal of feeling, and not infrequently leads to another and a different business proposition whereby the physician changes his plans, and directs his patients to the man who pays the best commission.

This practice does not prevail so much in large cities as in the smaller towns, mainly on account of the expense to which the city druggist would be subjected, and also on account of the fact that many people have their favorite drug-stores, and do not always accept the advice of the physician as to where their drugs shall be purchased.

The practice, however, of supplying prescription-blanks, both in the city and in the country, is still a very common one. This should be absolutely changed. Every physician should have a distinctive prescription-blank, with only his name and address, and without the advertisement of the drug-store.

The majority of druggists in large cities do not undertake now to supply more than a few physicians with prescription-blanks, as it means a great outlay of money and inadequate returns. It is better for the physician to use his own blanks, and to keep carbon copies of all the prescriptions that he writes, in order that he may refer from time to time to former prescriptions, and to check up any case of accident, or a carelessly filled prescription, to ascertain where the error, if any, lies. Then, too, it is a good business proposition for the physician to keep track of every prescription that he writes, for his own information, for the benefit of the patient who needs a renewal, or for the patient who, years after, perhaps, needs the same treatment that he had before, or, at least, thinks he does; and it is often very gratifying for the physician to refer to his former prescription.

The idea of the druggist's supplying the telephone is wholly unbusinesslike, and the man who accepts office-rent free from his druggist, is placing himself in a very bad light before the community.

The business of physician and druggist should be run on strictly business lines, and then no one will complain of unfair treatment, favoritism, or the commission problem.

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## REPORTS OF SOCIETIES

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### NICOLLET-LESUEUR COUNTY SOCIETY

The regular meeting of the Nicollet-Le Sueur County Medical Society was held at St. Peter,

Minn., Sept. 28, 1909, with thirteen members present. The following papers were read and discussed:

"Diagnosis and Treatment of Cerebro-spinal Meningitis," with a discussion of the use of Flexner's serum by Dr. S. Marx White, Minneapolis. "Intubation," by Dr. H. B. Aitkens, Le Sueur Center. "Report of a Case," by Dr. H. A. Tomlinson, St. Peter.

J. E. LE CLERC, Secretary.

### GOODHUE COUNTY SOCIETY

The regular meeting of the Goodhue County Medical Society was held Tuesday, Oct. 5, 1909, in Cannon Falls, Minn., at the office of Dr. H. E. Conley, president of the society. The morning session was called to order at 10:00 a. m., and after the regular business hour two papers were read. The first was an interesting paper on "The Early History of Medicine," by Dr. O. O. Larson, of Zumbrota, and the second was a well-written paper on "Pneumonia," by Dr. F. W. Dimmitt, of Red Wing.

After dinner at the Falls House the afternoon session opened with the chief subject of the meeting "Shall Goodhue County Have a Tuberculosis Hospital?"

The discussion was opened by Dr. J. W. Bell, of Minneapolis, with a paper entitled, "The Tuberculosis Problem." (This paper will be published in a subsequent issue of this journal.) Following Dr. Bell's paper Dr. P. M. Hall, Health Commissioner of Minneapolis, gave the society a very practical talk on how Minneapolis is trying to handle the tuberculosis problem in that city. Dr. Bell's paper and Dr. Hall's talk were of practical interest to the society and county as the county commissioners are considering the advisability of purchasing the Zumbrota hospital and turning it into a tuberculosis hospital.

Dr. O. O. Larson reported that the hospital had cost its owners, with equipment and five acres of land, between \$15,000 and \$16,000 and that the county could purchase it for \$3,500. A committee consisting of Drs. Wellner and Smith, of Red Wing, and Dr. Larson, of Zumbrota, was appointed to meet the county commissioners to present the unanimous belief of the county medical society that the time had come when Goodhue county should have a dispensary, sanatorium and hospital for the segregation and care of its tuberculous citizens.

Following the tuberculosis discussion Dr. H. W. Hill, state epidemiologist, gave the society a

most interesting report of the present epidemic of acute poliomyelitis. This brought out much discussion and the report of many cases in Cannon Falls and vicinity.

A new feature of this meeting was the attendance of the doctors' wives, who were entertained at the home of Mrs. H. E. Conley. In the afternoon they visited places of interest in the city and vicinity.

There was a good attendance; Red Wing, Zumbrota, Pine Island, Kenyon and Cannon Falls being well represented. The visitors were Drs. J. W. Bell, P. M. Hall and H. W. Hill from the Twin Cities, and Dr. Fred A. Engstrom, of Clitherall, Minn.

A. T. CONLEY, Secretary.

## NEWS ITEMS

Dr. D. H. Slippert has moved from Fosston to Bellingham, Wash.

Dr. C. M. Luther, of Minneapolis, has just returned from a trip to Europe.

The Gaylord Hospital closed late in September to be re-opened October 15th.

Dr. A. G. Belsheim of Aitkin, Minn., has moved to Trout Lake, Washington.

Dr. J. W. Andrist formerly of Ellendale, Minn., has decided to locate in Owatonna.

Dr. William Black of Parker's Prairie, Minn., and Miss Lillian Bausman of Minneapolis were recently married.

Dr. J. H. Higgins of Minneapolis and Miss Grace Crandall of Rockford, Minn., were married Sept. 21, '09.

Dr. Ward Akester, of Casey, Illinois, has moved to Marshall, Minn., for the purpose of entering practice there.

Dr. C. E. Van Kirk has recently been sent to Walker, Minn., to replace Dr. Hardin as physician to the Indian agency.

Excavation for the basement of the new Mandan Hospital has been completed and contracts for the foundation have been let.

Dr. W. J. Cox of Superior, Wisconsin, was recently severely, and perhaps fatally injured in a train wreck at Trinidad, Washington.

Dr. John J. Janss, of Welcome, Minn., has sold his residence and practice to Dr. Mennigsen, and will move, temporarily at least, to California.

The Methodists of South Dakota are discussing the matter of establishing a hospital at Aberdeen, to be erected and maintained by the church conference.

Dr. J. N. McCormack will be one of the chief speakers at the meeting of the Sixth District Medical Society to be held at Bismarck, N. D., Saturday, October 30.

Plans for the nurses' home of the Winona General Hospital have been drawn and formally approved and as the funds are already provided, the building of the home is now assured.

Dr. A. G. Belsheim, of Aitkin, Minn., has sold his practice to Dr. J. J. Ratcliffe, of Big Falls, Minn., and will remove to the Pacific coast where he has a claim and where he will remain for the present.

Dr. Douglass F. Ward, formerly at Hanska, Minn., has returned from Europe where he has been studying eye, ear, nose and throat work, and has located in the Donaldson Building at Minneapolis, Minn.

Dr. Charles E. Smith has been appointed second assistant city and county physician in St. Paul. Dr. Adolph Stierle, who has been first assistant for two years, retired Oct. 1, and was succeeded by Dr. E. M. Jones, former second assistant.

The next regular meeting of Camp Release District Medical Society will be held in the rooms of the Hennepin County Medical Society, Donaldson Block, Minneapolis, Minnesota, Thursday, October 28, 1909, 9 o'clock a. m.

## PROGRAMME.

9 a. m.

### Business Session.

President's address, Dr. W. A. Lumley, Renville  
What can be done to increase interest in and attendance upon our Society meetings? A free-for-all discussion.

2 p. m.

Cystitis, Dr. F. W. Penhall, Morton

Discussion opened by Dr. D. N. Jones of Gaylord and Dr. C. E. Rogers of Montevideo.

Prostatitis, Dr. Frank R. Wright, Minneapolis

Discussion opened by Dr. E. O. Giere of Madison and Dr. H. M. Johnson of Dawson.

Physicians of the Twin Cities are cordially invited to attend.





REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF JULY, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Child-hood	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	6													2	
Anoka.....	3,769	4,053	3	1													
Austin.....	5,474	6,489	1														
Barnesville.....	1,326	1,566	0														
Bemidji.....	2,133	3,800	4	1											1		
Blue Earth.....	2,900	2,364	5													1	
Brainerd.....	7,524	8,111	10					4						1			1
Chaska.....	2,165	2,085	1	1													
Chatfield.....	1,426	1,300	0														
Cloquet.....	3,074	6,117	4														
Crookston.....	5,359	6,794	11	1	2	1						1			1	1	
Detroit.....	2,060	2,149	3														
Duluth.....	52,968	64,942	61	4		3			2					1	6	5	
E. Grand Forks.....	2,077	2,481	1					1									
Ely.....	3,712	4,045	4	1				1							1	1	
Eveleth.....	2,752	5,332	3												2		
Faribault.....	7,868	8,279	7			1										1	
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	6	1												1	
Granite Falls.....	1,214	1,340	2														
Hastings.....	3,811	3,810	1														
Hutchinson.....	2,495	2,489	4													1	
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	2														
Litchfield.....	2,230	2,415	0														
Little Falls.....	5,774	5,856	3													1	
Luverne.....	2,223	2,272	1														
Le Sueur.....	1,937	1,842	0														
Madison.....	1,336	1,604	1														1
Mankato.....	10,559	10,996	14													4	
Marshall.....	2,088	2,243	2														
Melrose.....	1,768	2,151	0														
Minneapolis.....	202,718	261,974	200	22	5	10		1	3			2		1	9	19	
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	0						1								
Moorhead.....	3,730	4,794	6			1								1		1	
Morris.....	1,934	2,003	0														
New Prague.....	1,228	1,419	2														
New Ulm.....	5,403	5,720	5									1					
Northfield.....	3,210	3,438	7													1	
Ortonville.....	1,247	1,612	5													1	
Owatonna.....	5,561	5,651	3	1													
Pipestone.....	2,536	2,885	0														
Red Lake Falls.....	1,885	1,797	2		1												
Red Wing.....	7,525	8,149	7	2													
Redwood Falls.....	1,661	1,806	1					1									
Renville.....	1,075	1,229	2					1									
Rochester.....	6,843	7,233	24	1												5	
Rushford.....	1,100	1,133	2	1													
St. Charles.....	1,304	1,238	1														
St. Cloud.....	8,663	9,422	10	1		2											
St. James.....	2,607	2,320	0														
St. Paul.....	163,632	197,323	161	22	2	8		3	5			1			6	11	
St. Peter.....	4,302	4,514	3														
Sauk Centre.....	2,220	2,463	0														
Shakopee.....	2,046	2,069	2														
Sleepy Eye.....	2,046	2,312	2			1											
So. St. Paul.....	2,322	3,458	4													1	
Stillwater.....	12,318	12,435	6	1		2											
Thief River Falls.....	1,819	3,502	*														
Tower.....	1,366	1,340	1														
Tracy.....	1,911	2,015	3	1													
Virginia.....	2,962	6,056	8			1						1				1	
Wabasha.....	2,528	2,619	4	1											1		
Warren.....	1,276	1,640	1														
Waseca.....	3,103	2,838	1														
Waterville.....	1,260	1,383	2														
West St. Paul.....	1,830	2,100	1														
Willmar.....	3,409	4,040	1														
Windom.....	1,944	1,884	0														
Winona.....	19,714	20,334	22	3								1	1			1	
Worthington.....	2,386	2,276	1														

\*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF JULY, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Cerebrospinal Meningitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adrian.....	1,258	1,184	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aitkin.....	1,719	1,896	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Akeley.....	..	1,636	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Alexandria.....	2,681	3,051	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Appleton.....	1,184	1,321	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Belle Plaine.....	1,121	1,301	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Benson.....	1,525	1,766	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breckenridge.....	1,282	1,850	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Buffalo.....	1,040	1,124	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caledonia.....	1,175	1,405	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canby.....	1,100	1,505	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cannon Falls.....	1,239	1,460	4	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Cass Lake.....	546	1,062	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Chisholm.....	..	4,231	4	..	..	..	..	..	2	..	..	..	..	..	..	1	..
Clayton.....	962	1,056	2	1	..	..	..	..	..	..	..	..	..	1	..	..	..
Delano.....	967	1,023	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fosston.....	864	1,000	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Frazee.....	1,000	1,146	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glencoe.....	1,780	1,805	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glenwood.....	1,116	1,718	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Graceville.....	856	1,032	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Rapids.....	1,428	2,055	4	..	..	..	..	..	1	..	..	..	..	1	..	..	..
Hallock.....	805	1,014	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hibbing.....	2,481	6,566	8	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Jackson.....	1,756	1,776	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Janesville.....	1,254	1,205	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kasson.....	1,112	1,049	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Kenyon.....	1,202	1,252	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lake Crystal.....	1,215	1,231	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lanesboro.....	1,102	1,041	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Long Prairie.....	1,385	1,256	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madelia.....	1,272	1,290	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Milaca.....	1,204	1,319	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Mountain Lake.....	959	1,063	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Mankato.....	939	1,129	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North St. Paul.....	1,110	1,400	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Olivia.....	970	1,019	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Osakis.....	917	1,056	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Park Rapids.....	1,313	1,719	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Pelican Rapids.....	1,033	1,095	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Perham.....	1,182	1,366	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pine City.....	993	1,092	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plainview.....	1,038	1,140	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Preston.....	1,278	1,320	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princeton.....	1,319	1,704	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Rush City.....	987	1,041	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Rushford.....	1,062	1,040	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis Park.....	1,325	1,491	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sandstone.....	1,189	1,589	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauk Rapids.....	1,391	1,552	3	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Scanlon.....	..	1,122	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Stillwater.....	1,422	1,572	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springfield.....	1,511	1,546	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spring Valley.....	1,770	1,573	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Staples.....	1,504	2,163	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Two Harbors.....	3,278	4,402	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..
Wadena.....	1,520	1,868	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wells.....	2,017	1,814	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Minneapolis.....	2,250	2,530	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheaton.....	1,132	1,346	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
White Bear Lake.....	1,288	1,724	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Winnepago City.....	1,816	1,553	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winthrop.....	813	1,031	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zumbrota.....	1,119	1,129	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State Institutions.....	..	..	24	8	..	2	..	..	..	..	..	..	..	..	1	..	..
Other parts of State.....	1,012,328	1,085,886	523	52	8	12	2	14	6	4	1	6	1	5	20	35	2
Total for State.....	1,751,395	1,979,658	1290	137	20	46	2	26	20	4	1	13	2	12	55	96	5

130 Still births and premature births, not included in above totals.

\*No report received. Health officer not doing his duty.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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## THE RELATION OF THE MEDICAL PROFESSION TO THE STATE

PRESIDENT'S ADDRESS\*

By CORNELIUS WILLIAMS, M. D.

ST. PAUL

The proper position of the medical man, in the community, is, I believe, not entirely appreciated by either the physician himself or by the lay citizen. Long years of communal isolation have bred ideas that are become convictions on the part of the public. This isolation, as to the doctor of medicine, is like unto that which hedges around the priest; a member of the community, yet restricted and not on an equal footing with the most favored citizen; allowed, of course, participation in all the rights of that most favored person, it is true, but at the expense of a certain loss of caste, stamped as it were with a kind of bar-sinister, which, while it does not take away any right, imposes a penalty if the right is claimed. This conviction is perhaps mutual, as to the average medical man and the average lay citizen.

Generations of physicians, bred to the idea of class segregation, have shown, and do show, the result of breeding in the idea of communal isolation, and are mostly content to accept the bar-sinister with all its limiting of the field of endeavor. This bar-sinister, which would exclude the physician from active participation in communal legislation and schemes of progress, except in so far as by common consent, may be supposed to belong to the medical man. By

common consent, the doctor is relegated to the doing of certain prescribed duties, the bearing of certain burthens, the accomplishment of which is expected, demanded and required because of the bar-sinister,—and gratis.

The physician, because he is a physician, is required to give freely of his time and skill whenever and wherever needed, without hint of compensation. In this fact is written his condition of vassalage, for in no other calling is there a contribution levied upon its members, in addition to the ordinary duties of the citizen. The grocer, the carpenter, the lawyer, the merchant, is accorded without question the right to demand and receive just and equivalent pay for what he may render, under any circumstances. This is not true of the physician. The bar-sinister which, because he wears it, compels the medical man to contribute his time and labor for the general welfare without pecuniary reward, or in fact any other, save the merest perfunctory bestowal of an hypothetical consideration, is the joint acquirement of the community, and in the fraternity of medicine, an equity, owned by the community, in and to the time and services of the physician, an easement, so to speak, possessed by the community, and suffered by the fraternity of medicine, upon its capital of time and knowledge and labor.

As well would it be to require of the artisan

\*Delivered at the forty-first annual meeting of the Minnesota State Medical Association, held at Winona, Minn., Oct. 13, 1909.

that he should build hospitals, and the dealer that he should furnish them and victual them and heat them and light them, as that after they had been finished and provided and filled and administered, that the physician should give gratis of his time and labor and skill, by which and through which alone their conduct is possible. Why should the doctor do this? The answer is because he does it, and the service is now considered his duty and his obligation because he has done it for so long that no one knoweth to the contrary. There is a peculiar fiction in law (I call it a fiction) that if a man permit the public to use his property for a certain length of time without protest or pay, then he loses his right to his own; it is no longer his but inures to the public, or even to a private party, who may have possessed himself of its use. The position of the medical class is much like unto that of the party who may have slept on his rights for so long that he has lost them. That is really the question.

My proposition is that the bar-sinister shall be broken, and that the physician, at all times and everywhere, shall receive full and usual compensation for his work, wherever and for whomsoever done—in fact that he shall come into his own. How shall this be brought about? To bring this about is a task to be accomplished, not by "Educating the public," for you cannot educate a class by mere reasoning, argument or persuasion to do a thing contrary to established custom, and the comfort or profit of the class. Mere hair-splitting may amuse or anger, but it never does convince, and the good public, who has always enjoyed a service which has been given gratis, will not easily be brought to see the force of an argument which would lead to the taking of that gift away, and the carrying of that valuable—that invaluable—donation to the other side of the ledger, and consent to pay for a service that is theirs by inheritance, they say. Mere words do not count for much, and there are skilled disputants who would prove beyond contravention that the doctor is the man benefited, and in fact ought to pay for the privilege of doing what he is permitted to do, as in fact he does, and as many are anxious so still to do.

There is, however, no such force in mere logic as will overcome or set aside an indisputable fact. The fact that a freeman is entitled to a fair wage for his labor cannot be put away by any sophistry or bathos, or by the marshalling of any sum in array of reasons why, for every reason why the medical profession should

render gratuitous service to the public is set off by the unanswerable reason that the physician is entitled to be paid for a service in like manner that any other man is paid for his labor, whether the work may be done for an individual or a state or a municipality.

Now in a few words, I mean that all gratuitous service on the part of the physician to the public, in any form whatsoever, should cease and forever determine. This carries with it the lesser proposition that the physician should, and must, be paid full rates for his work when rendered to a corporation, association or combination of persons.

In the beginning, it is proper that the teacher in medicine should be paid for the value of his services in the medical schools, and that the young physician, whether he is an undergraduate or has the degree of doctor in medicine, be paid for his services in the hospitals. In either case, the result would be that better men could be obtained for both medical colleges and hospital internes. This would involve, in the first instance, the development of a teaching corps who would do only studying and teaching, men who, in addition to a natural fitness to impart knowledge, would be able to devote themselves wholly to the work of investigation and teaching, turning out physicians better prepared for the lifework of curing sick people, and thus ennobling and elevating the science and art of medicine.

In our country, which is so new and so great and so rich, we, in the hurry of our pace, have not yet come to do all things as well as are done elsewhere, may well take counsel of the manners and methods of the people of other countries in the matter of medical education, and improve upon them. While we prepare the man to be a physician, we must also prepare the people to be cured in the broadest, most catholic sense. There is properly no mystery about medicine as a science or as an art, and while it is true that a little learning is a dangerous thing, that fact can by no special reasoning be twisted to mean that the whole people should not acquire a knowledge of the fundamental truths that underlie medicine as a science, and of its practice as an art; for it is just this information which is necessary to fit the people to receive, appreciate and pay you the ministrations of doctors in medicine. The laws of health, if understandingly expounded, teach people how to live longer and better and happier, and intelligent conduct of the life journey, and an observance of these

laws will make the human animal to become not only physically superior collectively, to the best physically developed person of today, but will make of the whole class, beings intellectually greater than the greatest intellect of our time, Without that, any one of them shall be unfitted for the highest and most necessary duties of the citizen. It is pure and simple, just a matter of breeding.

Now then, this betterment, this elevation of the race, must come about through and by the aid which is to be, and has been, largely in the past rendered by medicine. Descartes it was who said that if the human race is to be improved, it must be through the science of medicine. The task of doing this service to the people, which I conceive to be the privilege, the mission, of the medical profession, is one about which very divergent views are entertained among those to whom the initial work must fall. There are those of us who would decry and oppose the movement of active participation of the physician in the politics of the day. I, on the other hand, boldly declare that it is only by a participation in politics that the physician may, by any chance, accomplish his whole mission, and that this participation is as much a part of his duty as a member of the medical profession, as it would be the duty of any member of the body politic to render to the state the duty of obeying the highest law of the land.

I am claiming that from the very nature of his position as one of the body politic, and as a physician, his duty places him in the rôle of the police, in the original and broadest sense of the word, which is that he shall maintain order in a large sense and specifically to suppress or regulate whatever is injurious to the peace, health, morality, general intelligence and thrift of the community, and its internal safety.

I hold that no one who studies in the most cursory way the primal principles of political economy but would maintain that the chiefest end of political science is the furtherance of those things which conduce to the health and material welfare of human beings; and this much being admitted, it then becomes the duty of every member of the medical profession to adopt practical every-day methods to increase his influence and add to his power of accomplishment.

As isolated members of the community, isolated in the sense that there is no concert of action, the medical man is a negligible quantity, as to any influence, either for good or bad legislation, but united into a guild of earnest, ag-

gressive, forceful workers, the medical body would be, and will be, a power great enough to determine the outcome of an election, and to color and direct the measures of government. Until the medical men of the country do unite and expend their energies in practical shaping of the measures which concern the health, mental and physical development of the people, then the betterment of that people will not come about as said by Descartes.

I then propose the formation of a medical guild. This guild should comprehend every respectable medical man in the state. The purpose of this guild should be to become a political power in the highest sense of the word. I deem that it would not be the best, except under exceptional conditions, for the members of the medical guild themselves to seek office, but that much more effective work could be done in putting forward such men as would be dependable in the matters of vital importance to the objects of the guild. In my opinion, the foundation of a medical guild, a close corporation, a medical union, together with an insurance guild in one, would be an ideal method for the closer alliance of the medical profession, an association of honorable men for their mutual protection against any enemy in any form, whether in the form of adverse legislation, or a process in the nature of a personal injury suit. It would be found that the working out of the detail of operation of this great guild would involve nothing more complicated than the application of plain every-day business principles to the matter of the elevation of the medical profession as a whole, and consequently the betterment of the society at large.

In most instances in our state, the judiciary is of the highest order, able, just and fearless. There are certain features, rules of practice, which obtain in our courts here as elsewhere, that are confessedly obsolete, medieval, and in the present condition of society, injurious, particularly as pertaining to the trial of causes involving the practice of medicine and surgery. The mind of the jurymen, and in some instances even the judicial mind, is not prepared for the impartial consideration of questions which come up for decision, because primarily of that want of the diffusion of the knowledge, in the masses of the fundamental principles underlying the practice of medicine. It is a matter of common knowledge that some questions coming before a court are not impartially considered by all parts of the tribunal, if the question affect a medical



man, and the matter be one of medical practice. Even the judicial mind may seem to be warped by what is technically known as passion and prejudice. As an illustration of this, I know of a case which had been more than once considered by the highest court of a sovereign state, in which the learned judge was moved to fulminate the following declaration in seeming contempt of the profession of medicine, the forms of law, and good manners. The judge said to defendant's counsel: "I want you to know that you are not going to get a verdict in this court in this case; those doctors are entirely too swift, and have got to be checked."

Now in the present day and way of choosing our judiciary, the medical guild would seem to be the only effective way to eliminate men of such minds and mold. Eliminated they should be, looking at the matter in whatever light you may, for such a man on the bench is a menace to society, and such essential weakness of mind in one particular, is incompatible with the supposition that such a fellow could impartially

weigh and decide any question which might come before him. The medical guild then, if I may be permitted the expression, might be called a communal deobstruant, whose office would be to purge society of some of its ills, and to rectify some of the evils of intestinal mal-assimilation of the body politic to raise the opsonic index of that body and to afford the proper and measured anti-toxin required to correct the morbid condition induced by unsanitary ways of living.

I would expect that the propositions contained in this paper will meet the treatment usually accorded to the pioneer who breaks out of the beaten path. I only ask of you that you will first count twenty, then think, think, think; you may embrace or you may reject the view here set forth, but I beg to assure you that the matter is not a new one with me. I am convinced that the things suggested are practical of doing, and their doing would be of exceeding benefit to the community, and would inaugurate a new era in medicine.

## ULCER OF THE STOMACH AND DUODENUM\*

By ARTHUR T. MANN, B. S., M. D.

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MINNEAPOLIS

Three or four years ago surgery of the stomach and duodenum of benign conditions had a tendency to run riot. All sorts of conditions that lead to manifest disorders of digestion were promptly brought under the surgeon's knife. The various operative procedures were simplified, for the most part, aside from plastic operations on the pylorus, into the one operation of gastrojejunostomy, or gastro-enterostomy, as it is commonly called. Inasmuch as an operator with average skill in technic and very little skill in diagnosis could get his patients off from the operating-table and up and about again in a reasonable length of time not much the worse for the operation, there was much unwarrantable work of this kind carried on, with a great deal of enthusiasm for the newly widened field of surgery, but much to the discredit of surgery in the end. Even some of the most skillful of our surgeons were drawn a little too far by the enticing suggestion of the new curative measure,

but they were careful men and a close analysis of their cases before and after operation soon convinced them that there are judicious limits beyond which we must not go; limits beyond which we do harm rather than good.

An analysis of the many hundred operated cases which have been studied and reported, and of the cases which we have seen ourselves, makes it evident that a few cases belong very definitely to the surgeon, and that the many cases are not for him to deal with except occasionally in some of their complications.

The chronic indurated ulcers of the stomach or duodenum which persist after a moderate amount of well-directed medical treatment; stenosis of the pylorus from the scars of ulcers, or scars combined with the induration of ulcers still unhealed; the crippling scar of the hour-glass stomach; and peritoneal adhesions or adhesions to a neighboring viscus which cause persistent and well-marked disturbances,—these are open to the surgeon for treatment, otherwise it is the complications of ulcers which bring them

\*Read before the joint meeting of the Watertown and Aberdeen District Medical Societies, at Watertown, S. D., August, 1909.

to surgery for relief,—acute perforation, with its peritonitis; subacute perforation, with its abscess formation; and hemorrhages occasionally.

We have learned that it is best not to operate upon the neurasthenics and neurotics with their long train of gastric symptoms; for most of them are made worse by any operative interference. Simple, uncomplicated ulcer demands medical treatment. Hemorrhages by no means always indicate surgical interference. A large percentage of the hemorrhages cease spontaneously, as we all know. Repeated and irregular hemorrhages are important in calling attention to the stomach, but it is a study of the history of the case, the finding of a long train of ulcer symptoms, which puts the case into the chronic ulcer type,—that is really the thing which puts the case into the class of surgical ulcers, ulcers in which surgical treatment, not only cures the hemorrhages, but relieves the patient from a long line of symptoms due to a definite lesion.

It is only occasionally that the surgeon will feel that it is best to operate upon cases of hemorrhage which do not give the history of prolonged and recurrent symptoms of gastric or duodenal ulcer. There are also the occasional, profuse, overwhelming hemorrhages for which surgical intervention is so grave that it must not, as a rule, be attempted. Each case must be decided upon its merits.

During the earlier years there were many mistakes in judgment. Many cases were operated upon when no definite lesion was found, in many of them to the distinct disadvantage of the patient. These cases, also, we have learned to let alone; and if they have been referred by medical men who have had them under careful medical treatment for a considerable length of time we still leave them alone. That is, if such patients actually come to the operating-table and no gross lesion is found, nothing in the stomach or duodenum which can be seen or felt, e. g., the firm area of a chronic indurated ulcer, an old crippling scar, the thin base of a perforating ulcer, or a place from which actual hemorrhage may be coming—such patients are to be sewed up without a gastro-enterostomy or other operation upon the stomach or duodenum. Unsuitable cases and those in which a diagnosis has not been established, should not be operated upon.

In regard to the occurrence of ulcers of the stomach and duodenum: The findings at the operating-table have very materially modified the old statistics founded upon case-histories and the end-results seen at post-mortems. Statistics

from different sources vary quite considerably, but it is established that ulcer is a fairly common condition; and ulcers or the scars of ulcers have been found in about one in twenty of all autopsies; that is, they are one-half as frequent as consumption, signs of which are found in about one-tenth of all autopsies. There is a growing conviction that ulcer of the duodenum occurs with much greater frequency than was supposed. The figures of Mayo perhaps state it best for this part of the country. He says that on analysing the percentages "it is to be noted that duodenal ulcer is found 77 times in men and 23 times in women, while in true gastric ulcer the percentage runs nearly even,—52 men to 48 women; so that the percentage of male over female is due to the peculiar frequency of the duodenal ulcer in the male." Moynihan's cases show about 65 per cent of duodenal ulcers in the male to 37 per cent in the female.

The place where the greatest number of ulcers occur is near the pylorus. In the stomach this area is subjected to the greatest trauma. It is the mixing and grinding portion, and when the injury which this portion receives is added to feeble nutrition, which permits the gastric juice to damage the mucosa, we have the formation of gastric ulcers. In the duodenum also it is near the pylorus that ulcers occur. Acid gastric contents spurted against, and lying in contact with, the duodenal mucosa is the most potent cause of ulcer of the duodenum. The first three-quarters of an inch below the pylorus, which receives the force of the impact of the acid gastric contents and against which it lies in contact longest before neutralization, is the portion in which the preponderance of duodenal ulcers occurs. Ulcers rarely occur as low as the opening of the common duct through which the neutralizing fluids pour in considerable abundance.

In regard to the symptoms of ulcer: There is less apt to be a clear picture in the so-called "medical ulcer,"—the soft ulcer, or fissure, or erosion,—than in the indurated or "surgical ulcer." Often with the medical ulcer we either have the acute ulcer, in which the first symptom may be a copious hemorrhage, or we have a train of digestive disturbances which might belong to a number of medical or neurotic conditions, and in which ulcer cannot be diagnosed positively, and only approximately if repeated examinations are made for occult blood in the stools, blood from minute hemorrhages which have occurred unnoticed in any way by the patient; or quite definitely if a more copious hemorrhage inter-

venes, which calls direct attention to the condition. Very rarely we have an acute perforation as the first symptom in this class of cases. This calls of course for surgical interference.

With the indurated or so-called surgical ulcer there is seldom a case in which we do not find a long ulcer-history with periods of more acute symptoms for days or weeks or usually months, with intervals of comparative comfort and well-being between times. The hemorrhages in this class of cases are repeated small hemorrhages and not, as a rule, the more abundant hemorrhages which are often seen in the medical or soft ulcer, though abundant, repeated hemorrhages may occur in this class of cases.

Pain is the next most characteristic symptom of ulcer of the stomach or duodenum, and it is not so much the place of the pain or the kind of pain present as it is the time at which it occurs. It is due probably more to the acid contact of the gastric contents than to the food itself, though sometimes it is undoubtedly due to the food and sometimes to muscular spasm. The pain of ulcer of the stomach occurs almost immediately after taking food, usually ten to thirty minutes afterwards; and that of ulcer of the duodenum, from two to four hours afterwards, when the acid chyme is spurted in against it. Pain of the stomach lesion is located in the triangle just to the left of the xyphoid cartilage or in the left hypochondrium just below it. Pain of the duodenal lesion is felt just to the right of the median line. For the stomach ulcer there is often a skin-tenderness to the light touch in the left epigastrium. Moynihan (quoted by Haines) speaks of a smaller spot the size of a sixpence, tender to the touch and quite diagnostic, in the skin just over the ulcer. There is also a dorsal spot sharply localized just to the left of the dorsal vertebrae, between the tenth and twelfth, of considerable value (Cruveilhier). There is no such spot for the duodenal ulcer in the back nor in the front, though there is a general diffused tenderness on deep pressure in the region of the gall-bladder and just below it, that is, in the region of the duodenum.

Pain-control is another important characteristic of the pain of ulcer. Food, alkalies, water,—anything to reduce the acidity of the gastric contents, or vomiting or lavage to remove them from the stomach,—controls the pain. The reason is evident in the case of the stomach. In the case of the duodenum, new food or the dilution or neutralization of the gastric-acid contents closes the pylorus, and the irritating fluids cease

for a time to pour out upon a painful duodenal lesion. Such measures, it has been suggested, would have no influence on the pain of gall-stones or of appendicitis, for instance.

Hyperacidity is present of course in nearly all cases of ulcer, and it has been present at some time in practically all cases.

Vomiting is not a constant nor a characteristic symptom. It often brings relief to the pain of ulcer of the stomach. Patients with ulcer of the duodenum seldom vomit.

So the persistence of recurrent symptoms, the hemorrhages when they come, and the characteristics of the pain and its relief are the main elements in determining the presence or absence of ulcers of the stomach or duodenum.

As to the surgical measures of relief in proper cases: The most useful procedure is gastro-enterostomy. Excision of the ulcer and excision of the ulcer-bearing area are urged strongly by a number of operators.

There is a feeling that we should more often employ excision of the ulcer and excision of the ulcer-bearing area, which has been advocated so strongly by Rodman, but surgeons are cautious in yielding to this feeling because it would seem that the increased mortality of the larger operation would carry off more patients than the occasional cancer which might develop in the healing ulcer. It should be performed, of course, when beginning cancer is suspected, and it will be performed rather more often in indurated ulcers, which are movable and easily accessible, and especially in cases with hemorrhage or with perforation in which the sutures do not readily hold.

The operation of gastro-enterostomy has passed through many stages before reaching its present form of safety and efficiency. We first had the anterior operation with the long loop, and its train of symptoms known as the vicious circle because of the regurgitation of bile and persistent vomiting. A large number of operations were devised to avoid the difficulty. Posterior gastro-enterostomy was suggested, but failed because of the long loop. Then union of the duodenum to the stomach was tried. Prof. Roux performed the gastro-enterostomy by dividing the bowel completely across, sewing the distal end into the stomach and the proximal end into bowel again below, forming a "Y". Then further work was done on the long-loop gastro-enterostomy by making an anastomosis between the loop and the adjacent bowel. Several methods were devised to make the stream of



food flow through the stomach into the bowel in the direction of its peristalsis, and we had the bowel twisted about, for this purpose, at the stomach opening. We had a portion of the stomach sutured like a small funnel down into the bowel opening, and we had the rounded flaps of Kocher to drop down as a valve over the proximal opening. The great advance has come, however, in the "short-loop" and finally the "no-loop," posterior gastro-enterostomy, made without the twist in the bowel, for it has been found that the direction of the bowel is practically unimportant.

Now, how does such an operation work its benefit in suitable cases? It is not by drainage, as many surgeons believe. Except when there is a definite obstruction at or near the pylorus the food continues to pass by way of the pylorus, and not by way of the new opening, as has been shown so graphically by many workers, notably by Cannon and Blake of Boston, who took x-ray pictures of the food-stream mixed with bismuth and show it leaving by way of the pylorus; and by the work done in New York at the College of Physicians and Surgeons, in which small bags of shot tied to a string carried the string out at the pylorus and down into the bowel, and sometimes even back into the stomach and out at the pylorus again, making a double circuit. Undoubtedly, some liquids find their way through the stoma, but the main food-stream passes by way of the pylorus.

The main cause of our good results is undoubtedly due to the decreased acidity of the gastric juice. About 35 per cent is the average diminution after gastro-enterostomy. This is not all due to neutralization by the alkaline secretions of bile and pancreatic juice, some of which, without question, regurgitate into the stomach. It is due only in a small part to drainage as has been shown.

Physiological reasons alone remain to explain the decrease of the total acids secreted. The brilliant work of Pawlow, Bayliss and Stirling, and others has demonstrated the interdependence of the action of the secretive glands in different portions of the digestive tract. For instance, when the acid chyme pours into the duodenum or into the jejunum little chemical substances (secretin) are formed, and float as messengers through the blood-stream to the pancreas and cause it to form and to pour out its secretions. That there are other messengers we know, and it has been suggested that when the pancreatic digestion is well started, other little messengers are

floating back to the stomach mucosa to inhibit the secretion of hydrochloric acid. With the gastro-enterostomy performed, it is undoubtedly true that a little of the acid chyme may get through into the bowel somewhat earlier than in normal digestion, and pancreatic digestion be started earlier than usual, and so the little messengers back to the stomach would begin to cut down the formation of hydrochloric acid sooner than usual, making the total less than before operation. The relief of the spasm of the pylorus, when present, due to the hyperacidity, may itself be a contributing cause.

It only remains to be shown that the operation suitably performed does not jeopardize the health of the patient.

Herbert J. Patterson, of London, read a paper on the physiologic effects of gastro-jejunostomy before the Surgical Section of the American Medical Association in 1907. He gave the clinical observations carried out on nine patients, in which he had made a careful study of the digestion of the albuminous and the fatty substances taken in as food. Five were on patients with the anterior gastro-enterostomy and four were on patients with the posterior no-loop operation. The results were practically alike in both series, and are compared with the results obtained by metabolism experiments on seventy-five apparently healthy individuals on a mixed diet by Harley and Goodbody, in which the nitrogen absorption was from 97.07 per cent in the highest to 90.1 per cent in the lowest with an average of 93.46 per cent, and the fat absorption was from 98.5 per cent to 90.19 per cent with an average of 95.05 per cent.

In his whole series of nine cases in which the observations were taken from twenty-four days to two years after the operation, and for the most part were continued over a period of from four days to a week in each case, Mr. Patterson found an average diminution of nitrogen absorption to be 1.7 per cent, and the average diminution of fat absorption 1.9 per cent. In every instance the variation was within the limits found in individuals who were in good health. Besides the evidence of these investigations we have the evidence of the patients who have regained their health and have kept it during many years; but the most convincing proof would seem to be the cases of congenital stricture of the pylorus which have had gastro-enterostomy performed in the early days of their life, and who have thrived and have grown into sturdy children.

# THE EMPTY INTESTINE TREATMENT OF TYPHOID FEVER\*

By A. D. HARD, M. D.

MARSHALL, MINN.

It has been but a few years since the set prescription for the routine treatment of typhoid fever vanished from our text-books and medical magazines. The science of medicine is progressing, and we are beginning to see that to group a lot of symptoms together and treat them under the name of some disease is folly gone mad. To do so is merely jumping at a conclusion, with no understanding of the path followed. Modern practice demands rational, well-understood, and skillful methods. To give olive oil for gallstones, tannic acid for hemorrhage, or Woodbridge treatment for typhoid fever is based upon some one's assertion which science has completely disproved.

Typhoid fever is a name which has been applied to a group of pathological conditions caused by the activities of the bacillus typhi abdominalis of Eberth. For generations past we have been, and quite largely today we are, prone to fight the objective symptoms of the disease, not considering the fact that very often the symptoms are simply evidences of nature's effort in fighting the disease, and they should not be interfered with, for they are advantageous instead of injurious, unless they get beyond safe bounds. Almost all of these symptoms are plain indications for our assistance to nature in eliminating the cause of the troubles. The thin intestinal discharges indicate that the system is endeavoring to throw off something injurious. The fever is but the evidence of increased oxidation of toxic carbon compounds in nature's effort to antidote them. The loss of desire for food is an indication that it will be injurious if injected, and all of the distressing effects are but the turmoil of battle between the fighting forces of nature and the invading producers of ill health. To check the intestinal flux, reduce the oxidizing heat, force food into the intestines, and relieve the distress with opium, is absolutely wrong in both principle and effect. As I have already said, these activities are salutary instead of injurious, unless they progress beyond reasonable bounds, and should not be combated.

Another medical fetish of unreasonable origin is the use of alcohol in typhoid fever. The ef-

fect of alcohol upon albumin is to coagulate and render it less mobile. It is taken into the blood as alcohol and there comes in direct contact with the white-blood corpuscles whose activities as phagocytes destroy bacilli and to some extent antagonize toxins. Alcohol reduces their efficiency by its natural action upon the albumin of which they are mainly composed. You may tell me that it stimulates. Yes, it stimulates, but how does it do so? It irritates the nerve-centers by its toxicity and gives an impetus to the nerve-impulses sent out, only to leave the supply of nervous energy fatigued and exhausted. The vital forces are not increased in amount by its use, but simply whipped on to spasmodic effort, only to be followed by extreme exhaustion. We seldom require stimulation of that kind. A sensible farmer does not stimulate his tired team with a cruel whip, but adds another team to help pull the load up the hill.

The treatment of typhoid fever was formulated and taught as we now have it long before the cause of the disease was discovered, and this is the reason why a more rational system should now be substituted for it. All living matter, including bacilli and cocci, throw off toxic excreta as part of their life-actions. These excreta are classed chemically with toxins, ptomains, and venoms. They are compounds containing relatively large amounts of carbon, and, owing to their loose chemical combination, are very easily broken up into less complex molecules when they come in contact with other substances having greater chemical affinity. Nerve-cells contain simple molecules possessing this extreme affinity, and when toxins, ptomains, or venoms get into the circulation and are carried to the nerve-centers the nerve-cells take up the injurious substances with great avidity. The effect of this is to reduce the activities of the nerve-centers, including the brain, to weaken the impulses which spur the glandular actions, and to weaken the inhibitory nerve-control of impulses which require to be held in check. The excreta from the hordes of bacilli typhi abdominalis inside of the small intestine are largely absorbed into the portal veins and are thus dumped directly into the circulation, and go at once to the nerve-centers.

\*Read before the Lyon-Lincoln County Medical Society, July 6th, 1909.

These toxins undermine natural resistance to disease causes, and also produce all the dangers to life which are incident to typhoid fever. Death never comes as a direct effect of the action of the typhoid germ. The toxins produced by the germ, either directly or indirectly, furnish the only pathway to the grave. These toxins inhibit cell-growth and vigor in the Peyer patches until erosive action takes the place of natural repair, and fatal hemorrhage occurs when the erosion invades a blood-vessel wall. They retard the natural body excretive ability, and auto-intoxication is added to the direct toxic effects of the germ poison. They deaden the cerebral activity, and delirium follows. They cripple the phagocytes, and Nature's defensive forces are weakened, as well as opposed. They irritate to over-action or reduce inhibitory forces. They produce every dangerous, disagreeable, and injurious effect upon the human body that gives to the name typhoid fever its significance and dread in the minds of men. This statement may seem rather radical to you, but it is based upon by the recent investigations of able scientific men who do not make rash assertions.

If these toxins produce such effects the indications for our efforts as medical men are to do one or both of two things in the way of assisting Nature to quickly limit and conquer the disease. We must antidote the toxin, or reduce the production. We have not yet found a perfect internal chemical antitoxin which can be introduced into the circulation and there attack chemically the toxins and render them harmless. We have one substance which seems to act somewhat in that way, but it is comparatively unknown to medical science. I refer to *echinacea angustifolia*. This vegetable extract certainly has a marked tendency to correct toxicity in the blood. While we cannot directly antagonize the toxins to a practical extent, we may reduce the production of these toxic excreta by simple methods of great effectiveness. The typhus abdominalis bacillus of Eberth lives and multiplies almost exclusively in the warm, moist contents of the small intestine. The alkaline semiliquid material there found furnishes a culture-medium well suited to bacillic life and proliferation. The toxins there produced would soon accumulate and be germicidal if it were not for the fact that they are more readily absorbed than the culture-medium itself. As it is, the effects upon the body are cyclic, depending upon the quite regular periods of overproduction of both germs

and their excreta. The indication is to clean out the culture-medium along with the myriads of germs and the contained excreta. If this could be done to an ideal extreme the disease would certainly be abruptly brought to a termination. We cannot expect to do this, but we may empty the intestine as far as is practicable, and in doing so we certainly approach the end desired. Gentlemen, I am not a therapeutic nihilist, but very small doses of calomel until every thing is on the run, followed by salines, and then sulphocarbolates, form the best treatment for typhoid fever that I have ever had any experience with in the last quarter of a century of practice. But this is only the fundamental treatment itself. There are conditions peculiar to each individual case which must be met by adjusting assistance based upon reason. Frequently the pathological conditions have gone to such an extreme that they are of themselves life-dangers. They must be checked in their mad course before irreparable damage is done, and the attack upon the cause of the disease must be applied with great caution. Phagocytosis cannot be promoted without nourishing the phagocytes, and the impulses which prompt the heart and lungs to continued work must be strengthened. Perforation calls all the attention toward the immediate danger to life, and there are times when stimulation by alcohol will even tide past a crisis and give a very slight chance for a new start. But, after all is said for these emergency measures, the fact remains that if we empty the intestine and keep it as nearly clean as possible, we have met the first and most important indication in the treatment of typhoid fever.

#### ADDENDA

Fothergill, a noted English author, states in his work on treatment that "the blood at an early stage of this disease exhibits changes which show that the disorder begins there" and it is "the vivifying function of this fluid which fails."—Fothergill's "Handbook of Treatment," page 219.

Prof. Polli, of Milan, puts forth the idea that the sulphites introduced into the blood acted as an internal antiseptic. He claims that a chemical combination occurs in the blood which breaks up toxins and makes harmless compounds in their stead. He made careful observations on three hundred dogs which were given large doses of sulphites, and the results bore out the truth of his contentions.



In 1842 Marshall Hall advanced the great importance of excretion. Deleterious substances must be eliminated from the body, or the nerve-centers will not impel life processes, and death will soon follow.

Croftan, in his work on therapeutics, 1907, says that yeast is very useful in typhoid fever. Also, on page 511, "Fever is one of Nature's most effective means of combating infection."

"The objective symptoms of typhoid fever are indications of nothing but toxins in the blood."—Croftan.

"Functional disorders of glands, muscles, or brain are always due to disturbance of nerve-centers by deleterious material carried to them in the circulation."—Osler.

"Germ activity results in chemical changes."—Potter.

I have made a few tests to demonstrate the chemical actions spoken of in my article, but they are not of a nature to show to you as I at first arranged to do.

Ten grains of morphine sulphate were dissolved in one-half ounce of water and twenty grains of potassium permanganate were then

added. The solution was absolutely non-toxic when given to a dog. Ten grains of morphine sulphate in one-half an ounce of water promptly put the dog out of existence.

Five grains of strychnine sulphate and thirty grains of magnesium sulphide in half an ounce of water make a non-toxic solution.

Twenty drops of echinacea every two hours and a sponge bath every four hours with pure echinacea poured upon a cloth which has just been wrung free of hot water, will produce results in typhoid fever that will astonish you and be so conservative that no bad results can possibly follow.

A sponge bath of saturated solution of magnesium sulphate, hot, acts to neutralize toxins which may be near the surface of the body in the capillaries.

White blood corpuscles in the capillaries of a frog's foot will surround and engulf small particles of carbon introduced into the blood-current. Introduce a very small amount of alcohol into the blood-current and such action of the cells will not occur.

## TREATMENT OF POST-PARTUM HEMORRHAGE WITH MOMBURG'S RUBBER TUBE

BY FRED L. ADAIR M. D.

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MINNEAPOLIS

The purpose of this paper is to emphasize the importance of a new method for controlling post-partum bleeding.

Momburg has described a new method for the application of the old idea of controlling hemorrhage from the lower half of the body by means of compression of the abdominal aorta. This method was first described by Momburg in 1908 as follows: A good finger-thick rubber tube is placed several times (2 to 4) around the patient between the iliac crests and the margin of the ribs, and with complete use of the elasticity is slowly tightened until the femoral pulse ceases to be palpable.

Felix Francke contests the claim of Momburg and cites a case of his own handled in 1890, in which severe hemorrhage took place during an amputation at the hip for sarcoma of the thigh. To control the hemorrhage he com-

pressed the aorta with a porcelain dish of 3 cm. height and 8 cm. diameter held in apposition by means of a Martin's rubber bandage. It controlled the hemorrhage, but a few hours later the patient had bloody diarrhea, which ceased the next day.

In view of the apparent intestinal injury he says it is therefore advised to use the aortic *compressor of Esmarch* for compressing the aorta.

The use of an elastic band to compress the aorta is common to both methods (Momburg and Francke), but the essential feature of Momburg's technic fails in the earlier methods of aortic compression. The important and new feature in the technic of Momburg is that he has substituted a diffuse and equalized compression of the blood-vessels of the lower abdomen for a localized pressure on the aorta. The service of Momburg is that he has found an apparently

harmless and efficient procedure to supplant one more injurious and less efficient.

In his first article Momburg described the technique as given above and gave the following reasons why he concluded the method would be harmless for man:

1. The intestines bear temporary clamping very well, as seen in surgical operations.

2. The abdominal walls distribute the pressure.

3. An anemia of the spinal cord is impossible, because the circulation is cut off below the end of the cord.

4. The ureters are well protected from pressure by their location.

One should not conclude too much from the animal experiments as the anatomical relations are different in them. An anemia of their spinal cord can occur, and injury of the abdominal viscera is more likely because their abdominal walls are thinner, and there is no such good criterion for the amount of pressure to be used as we have in the femoral pulse of man. In his animal experiments he applied the tube to the abdomen protected by felt strips, and was able to keep it in position for  $1\frac{1}{2}$  hours without apparent injury. He found that when the tube was removed and the vessels of the lower half of the body were suddenly thrown into the circulation again that a cardiac disturbance, of short duration, arose. To avoid this he recommended that the inferior vessels be thrown into the circulation slowly by using elastic bandages on the legs. In a later article, in answer to some criticisms of the method, he emphasized the importance of

circulation in the lower parts gradually by the use of rubber bandages on the lower extremities. In anemic cases it is advisable to conserve the blood by expressing it from the lower limbs with elevation and bandages before applying the constricting tube.

After his successful animal experiments he tried his method on two healthy persons, in each case leaving the tube in place for five minutes, and he found the procedure to be harmless.

At first the method was used only in surgical cases, but Sigwart, Hoehne, and others have recently written of cases in which it has been used to control post-partum hemorrhage. I have collected and tabulated the following cases from the literature.

In regard to checking post-partum hemorrhage by means of Momburg's rubber tube Sigwart has reported the following:

In a case requiring manual detachment of the placenta under general anesthesia thirteen hours after a difficult spontaneous labor, the uterus became atonic, and a severe hemorrhage ensued. Ergotin was injected hypodermically, uterine massage used, and an ice-cold intra-uterine douche given without appreciable effect in checking the hemorrhage or causing contraction of the uterus. In fifteen to twenty minutes the woman's condition became serious, and the tube was placed once around the abdomen without result; it was then strongly drawn twice around, and the bleeding promptly stopped. The uterus ejected a mass of old blood and then contracted firmly. After fifteen minutes the tube was slowly loosened and removed; no further bleeding occurred, the uterus remaining well contracted. The pulse was small and thin during the application of the tube, but became full when it was removed; breathing was not affected; there was no vomiting, and afterwards the patient recovered nicely.

Sigwart has also used this method in three other cases without narcosis, the patients making no particular complaints except one woman who was very sensitive to pain. Rieck and Thiess have also used it in Bumm's clinic in cases both with and without anesthesia and have had in every instance good results.

It has been shown by experience and repeated animal experiments that the uterus contracts itself strongly when the blood-supply is cut off. This method works as does the direct compression of the abdominal aorta through two factors: first, direct cutting off of the blood-supply by pressure, and second, the production of uterine



Illustrating the use of the Momburg rubber tube. In the clinic of Gehl. Bumm.

placing the tube around the body *only* as many times and as tightly as necessary to bring about a cessation of the femoral pulsation. He further spoke of the advisability of restoring the

contractions from the local anemia.

This method of Momburg has the advantage of compressing all arteries and veins by an equalized and uniform pressure; the vessels coming under special consideration in uterine hemorrhage being, of course, the aorta, the vena cava, and the spermatic vessels.

The post-partum abdomen is peculiarly adapted to this method because of the laxness of the abdominal walls and the abundant room left in the abdominal cavity, for free movement of the viscera, by the recent evacuation of the uterus.

Experiments on animals have not shown injuries of any consequence to the abdominal viscera and thus far no cases have been reported where any harm has resulted from the use of Momburg's tube.

At a meeting of the Medical Society of the Charité Hospital of Berlin, held on July 22, 1909, Sigwart gave some further conclusions regarding the use of this method, particularly in cases of post-partum hemorrhage, though he cited some others, notably one of hemorrhage from an eroded hypogastric artery. In this case the hemorrhage was checked promptly and completely.

He concludes that the method is harmless and efficient, in that the uterus contracts and remains so after removal of the tube. In some cases it remained soft until the tube was removed and then contracted firmly. Narcosis is not necessary. He thinks the uterine bleeding serves as a guide for the amount of pressure necessary, and he draws the tube only tight enough to check the hemorrhage. The tube can remain in position as long as half an hour, which suffices.

During the time the tube is applied the radial pulse is smaller, owing to the amount of blood kept out of the circulation, but it becomes fuller when the tube is removed.

Freund substantiated the ideas of Sigwart in regard to the efficiency and harmlessness of the method, basing his conclusions on the use of this method in several cases.

Hoehne, in an independent and more extensive article, called attention to the use of the tube in these cases a little later than Sigwart.

After demonstrating the efficacy and harmlessness of the method on animals he tried it with success on two cases of severe uterine bleeding. He considers it a safe and valuable method.

Riman considers it not devoid of danger, especially because of circulatory disturbances, but Momburg thinks it was not applied strictly according to directions in Riman's case, and he warns against using more pressure than abso-

lutely necessary to stop the pulsation of the femoral artery.

Riellander considers the method not efficient in all cases and was able to stop the hemorrhage in only five out of nine cases. He also considers it as not entirely harmless, inasmuch as he noted more or less severe circulatory disturbances, as well as gastro-intestinal symptoms. As an explanation of the latter he speaks of the possibility of injury to intestines filled with feces.

We can draw a few conclusions regarding the technic and use of the method in post-partum hemorrhage, though the method has a much wider field of usefulness in surgery and gynecology.

A tube, preferably of red rubber, about the diameter of a finger and of at least one and one-half meters in length, should be used.

The tube should be applied to the bare abdomen midway between the rib borders and the iliac crests. In order to be efficient the abdominal walls should not be too fat nor too muscular, and bony deformities (marked scoliosis, etc.) that interfere with the proper application of the tube, should not be present. The lax post-partum walls are particularly adapted to the method.

The tube should be tightened under constant control of the femoral pulse or watching of the uterine bleeding, and *only* as much compression as necessary used.

The tube is best secured and kept at proper tension by having assistants hold the ends after knotting, as clamps do not hold it securely.

It is efficient and harmless when properly used. Especial care should be used in cardiac cases and in those in which the intestines are filled with solid contents.

The amount of pressure must be carefully controlled. The tube should be applied above and *not across* the corpus uteri.

The methods of avoiding circulatory disturbance and of conserving the blood have been mentioned.

5. For private practice it appears to be a method of immense value and should be tried before any intra-uterine measures for controlling the hemorrhage. It is not a method to be used indiscriminately in any case of hemorrhage, but should be employed only in those which do not stop after trying the usual external manipulations. It is an important addition to our external methods and gives us an efficient and comparatively harmless means of avoiding the intra-uterine manipulations with their attendant in-



fections. In cases where it is incompletely successful one gains time in which to make more careful preparations for the intra-uterine measures.

Such a tube should constitute a part of every obstetrician's outfit, but should always be used properly and carefully.

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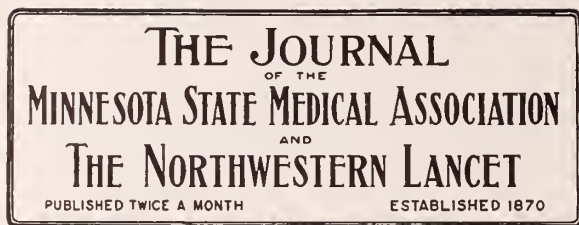
CASE	REASONS FOR APPLICATION	DURATION	RESULT	EFFECT
Momburg .....	.....	43 minutes .....	.....	.....
Momburg .....	Sarcoma with the removal nearly half of pelvis .....	18 minutes .....	Hemorrhage controlled. ....	No pain or bad after-effects.
Momburg .....	Railroad accident .....	.....	Hemorrhage controlled. ....	Pressure pain. No injury.
Riman .....	Exarticulation at hip .....	25 minutes .....	Slow oozing; no spurting vessels .....	Pulse dirotic when tube removed for 20 minutes.
Axhausen .....	Hip operation .....	45 minutes .....	Hemorrhage controlled .....	No bad after-effects.
Hofbauer .....	Hysterectomy for myom .....	75 minutes .....	Hemorrhage controlled .....	No bad after-effects.
Köhler .....	.....	45 minutes .....	Hemorrhage controlled .....	No bad after-effects
Williams. 4 Cases	Hip exarticulation .....	15 minutes .....	Skoliosis interfered .....	No circulatory disturbances of consequence.
	Coxofemoral resection .....	25 minutes .....		
	Hip exarticulation .....	35 minutes .....		
	T. B. of pelvis .....	45 minutes .....		
Sigwart 3 Cases	Atonic post-partum hemorrhage .....	15 minutes .....	At first complete control after few minutes oozing and even spurting of smaller arteries .....	One woman sensitive to pain. No bad after-effects.
	.....	20 minutes .....		
Hoehne .....	Abrasion after blasenmole .....	15 minutes .....	Hemorrhage controlled .....	No bad after effects.
	Atonic hemorrhage .....	5 minutes .....	Hemorrhage controlled .....	Pain in legs disappeared in 3 hours. No bad effects.
Rielander 9 Cases	Placenta praevia .....	.....	In five cases no control of Hemorrhage.	Disturbance of circulation in 2. Vomiting in 1. Diarrhea in 1.
	Atony .....	.....		
	Cervical tear .....	.....		

## A MEDICAL MIRACLE

Two young physicians, Mr. and Mrs. Wm. Cammack, who are at work in Chisamba, West Africa, performed their first hernia operation on a schoolroom table. The sheets, towels, and sponges were sterilized by boiling in a galvanized tub, which was the only thing available as a sterilizer; and they had to be used wet, as they could not be dried without danger of soiling them again. The native helper, who speaks a little English, stood by during the performance and helped carry the patient, still unconscious, to his room and bed. In describing the scene afterwards to a group of astonished listeners, he said: "I saw—I saw—I saw him *die*. When we carried him home he was still dead, and I never thought he would live again." Dr. Cammack said that people came from far and near to look at the man, who was as much a walking miracle to them as the man the Saviour restored to his mother from a funeral bier was to the people of his day and age.

## THE REPORT OF A PECULIAR CASE OF MENINGITIS IN WHICH TREATMENT BY ANTIMENINGOCOCCIC SERUM WAS ATTEMPTED

Dr. John Paterson Gardiner, of Toledo, Ohio, describes a case of cerebrospinal meningitis in which the antimeningococcic serum was used rather late in the disease. After two punctures had been made in the lumbar region it became impossible to withdraw fluid or to introduce antimeningococcic serum. The case terminated fatally, and autopsy showed very thick exudate damming up the fluid in the ventricles of the brain and causing death by pressure. Intracellular diplococci were found in the fluid removed. The effects of Flexner's serum are due partly to increased phagocytic digestion, partly to antitoxic action, and partly to injurious action upon the cocci. Functional restoration after its use is perfect in cases that recover. Serious complications are lessened in frequency.—Medical Record.



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DR. McCORMACK'S VISIT.

As the Journal-Lancet is going to press it learns that Dr. J. N. McCormack of Bowling Green, Ky., has arranged to hold meetings at the following places on the dates given. On Sunday, Nov. the 7th, he will be at St. Cloud; Monday, the 8th, at Brainerd; Tuesday, the 9th, at Duluth; Wednesday, the 10th, at Mankato; Thursday, the 11th, at Rochester; Friday, the 12th, at Austin, and Saturday, the 13th, at Winona. Everywhere Dr. McCormack has spoken he has been received with enthusiasm and we trust his meetings in Minnesota will be equally well attended and successful.

#### SPECIAL STUDY COURSE

In this issue of the Lancet will be found the program of the special study course, which takes place every Wednesday at the Hennepin County Medical Society rooms in the Donaldson building at 1:30 P. M. The course covers but one hour, and does not detain the student physician from his office for any length of time.

These study courses are in line with what has been done in other cities, and are a stimulus to

the doctor who either chooses to look up a special subject, or who is anxious to give his hearers the benefit of his own experience. In a way, these are heart to heart clinical talks, and, incidentally, bring out many points which are seldom touched upon either in the text books or by regular teaching methods. They are worthy of every man's consideration and the attendance should be large so as to encourage those who are getting up the work.

These courses might just as well be adopted in other places, as they take up but little time, put no one to any inconvenience, and, being in the middle of the day, are easy to attend, and offer physicians the advantage of talking over commonplace subjects in a matter-of-fact way.

#### MINNESOTA STATE MEDICAL ASSOCIATION MEETING

The 1909 meeting of the Minnesota State Medical Association at Winona October 13th, 14th, and 15th was, in all probability, the best arranged and the most scientific of any of the state meetings held in Minnesota. The success of the meeting was due largely to the activity and interest of the program committee, and shows what may be accomplished by the combined efforts of interested and thoughtful physicians.

The meeting of the State Sanitary Conference, composed of members of the local Boards of Health throughout the state, was particularly interesting as it dealt with a wide number of subjects, including those which interest laymen and educators particularly. The session was so well attended that it seems evident that matters pertaining to state health have awakened an interest on the part of medical men as well as laymen. Papers on heating and ventilation of school rooms, the lighting of public buildings, etc., were discussed by many of those in attendance.

The meeting of the State Medical Association itself, which began on the following day, took up almost the entire forenoon with the discussion of the present prevailing epidemic, poliomyelitis, and was treated from a historical and clinical standpoint, from the epidemiologist's point of view, and was illustrated by lantern slides. From a pathological basis there were many new points brought forward, many suggestions offered that will be of great help in the future; and it evidently showed that we shall have to take a broader view of epidemic diseases that

were formerly looked upon as circumscribed in their lesions. All forms and various types of the disease were demonstrated, and the pathological exposition showed that the disease was not limited to a small segment in the anterior gray cells in the spinal cord, but that it invaded whole regions in the cord, the brain stem, and even the deep ganglion within the brain itself. The consensus of opinion is that poliomyelitis is an infectious rather than a contagious disease,—this in opposition to the Norwegian investigators who have recently published their researches. The many abortive types of the disease were interesting from a clinical point of view, and it showed very clearly that many of these cases reported, by their prompt recovery and the rapid disappearance of what might have been serious complicating symptoms, that the pathological element was superficial, and did not invade the deeper gray cells. In a word, it resembled the old type of what we formerly called basilar meningitis, what was classed under the head of multiple neuritis, and other forms of neuritis. The fulminating cases were also shown to resemble the fulminating types of neuritis and Landry's paralysis. The whole session, particularly on this subject, was highly instructive and interesting.

The afternoon session, which was taken up largely by those interested in the forces of the state in medicine was introduced by Surgeon General Wyman of Washington, who read a very able resumé of the work done in his department, and the stamping out of preventable or epidemic diseases.

The other papers on the State University, The State Medical Association, The State Board of Health, The State Board of Medical Examiners, Public Institutions under the State Board of Control, the Medical and Lay Press, showed what might be accomplished if all of these forces united in their efforts to promote the welfare of the state, to improve the health of all communities, and to lay before the people, in an educational way, what they might accomplish in conjunction with medical men.

Our special thanks should be extended to Mr. H. V. Jones, the editor of the Minneapolis Journal, who delivered a very able and instructive address on what the relations between the lay press and physicians should be. He made it very clear that he would be willing and ready to aid all he could to educate the people in medical matters, and to further the efforts of all of the state forces in bringing them to public

notice. Mr. Jones suggested that doctors were apt to be too secretive about their work, and not willing to tell the people what they should know. In a measure, this is true, but doctors know well that it is very difficult to get a true statement of medical matters into lay hands unless it is edited by a man who understands medical terms and is able to express himself clearly. A work of education, however, among these various state forces, will be taken up with renewed activity the following year in order that our legislators may be appraised of what we hope to accomplish.

One other important symposium was that of Ophthalmia Neonatorum, in which the field was well covered, and will doubtless lead to passing of regulations preventing the spread of this dread eye disease.

The symposium on typhoid fever, in which the Mankato epidemic was the basis for discussion, would have struck terror to the hearts of lay people if they knew what accidents might happen to their water supply, as illustrated in this epidemic in Mankato. This was a further proof of the necessity of the various state forces educating municipalities, and preventing such epidemics from causing so much desolation.

All of these discussions brought into the field more clearly the necessity of a better understanding between State Engineering forces, the State Board of Health and its efforts to prevent diseases, the construction of all municipal appliances which are more or less applicable to the improvement and betterment of the health of the communities.

Winona entertained her guests in a very kindly way. Everyone was comfortable and well cared for, and there was a spirit of brotherhood and fellowship that was delightful, and the only regret that the State Association suffered was the absence of one of its oldest friends and advisers, Dr. J. B. McGaughey.

## HOSPITAL BUILDINGS

The Argentine Republic is asking architects in the larger cities of the United States to submit plans in competition for a design for a hospital building at Buenos Ayres to cost ten million dollars. Specifications have been sent to the architects by the Consul General of the Argentine Republic at Washington. The designs submitted will be accepted alone on merit, and the competition is to close at noon, December 10th, this year. The plans will carry with them very substantial prizes, and the winner's prize



is to be five per cent on the cost of construction. The second best plan will obtain a prize of ten thousand dollars, and the third prize will be awarded a prize of five thousand dollars. The system represents detached buildings, and will number in all twenty-four, four of which are devoted to clinical medicine, four for clinical surgery, two for obstetrics, one for pathology, one for ophthalmology, one for neurology, and the others to be divided among the other branches of medicine. The average of each pavilion shall be sixty beds in each, and a service house as well as residences for the faculty and teachers will be a part of the plans.

The only approach to anything of this magnitude in this country is the new Bellevue Hospital building in New York City, which, when completed, is to cost about ten million dollars.

This enormous undertaking of the Argentine Republic shows very forcibly that there are other countries in which medicine is being exploited, clinical buildings erected, and every facility made perfect for the care of patients, and for the instruction of students and medical men.

On the continent, where large hospitals have lately come into vogue, there is the same endeavor to the perfecting of plans and the construction of most modern hospital buildings. The new hospital buildings in Boston are to be very elaborate, and will cost in the neighborhood of three million dollars when completed.

When Minnesota physicians read of these enormous outlays for hospital buildings, we are incidentally reminded of the difficulties which are confronting St. Paul and Minneapolis. The City and County Hospital at St. Paul has been threatened on all sides, and it seems to be the endeavor of Mayor Lawler to cripple not only the buildings, but the management in order to reduce expenses and to make a showing for someone, or for some purpose, evidently of a doubtful kind.

If there is any one thing that should be commended in St. Paul, it is the City and County Hospital, and how anyone can put any stumbling blocks in the way of its progress is beyond comprehension.

The new University Hospital building is still a matter for discussion. The regents and architects are slow in getting their forces together, and as a result, the new building will have to be postponed until next year. The modest sum of money which is available for hospital construction amounts to about \$160,000, and will probably complete a building to accommodate about

one hundred and forty patients. The Faculty have been urging hospital construction for some time, but so far have been unable to come to a conclusion with the Regents and architects.

The erection of hospital buildings on the new University campus, for the opening of the University Medical School, might well be a subject for consideration of the new committee which was created at the last meeting of the State Medical Society.

The numerous Alumni of the University of Minnesota Medical School are scattered over the state, and are all progressive, earnest working men, and if they did but know what they might do with their legal representatives and senators, they would bring every argument to bear in order that more money be appropriated for immediate buildings at the next session of the legislature in January, 1911.

It is necessary that the physicians of the state unite their forces in order to make a determined effort to create a sentiment in favor of Hospital buildings and clinical teaching for the University Medical School. There is no reason why this school should not be among the best in the country provided ample clinical facilities are supplied. Of course, Minnesota will not be able to appropriate ten million dollars, but there is no reason why the University hospital should not have at least one million dollars for its completion, and the Faculty confidently look forward to the time when from 500 to 1,000 beds will offer the student all the clinical advantages that he may get in any other community.

The idea is to create sentiment among the people, to talk them into believing that hospitals are needed institutions, and that any amount of money put into hospital construction is not for the present, but for all time in the future. All hospital buildings now erected should be built with the idea of permanency. Even though the style of architecture changes, the building itself should last from one-hundred to two-hundred years.

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## REPORTS OF SOCIETIES

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### HENNEPIN COUNTY MEDICAL SOCIETY

*A Special Study Course* of Hennepin County Medical Society. Hours, Wednesdays, 1:30 to 2:30 P. M., in the assembly rooms of the Donaldson building. The names of the leaders will be given in the regular bulletin.

Nov. 3rd, *The Stomach*. Anatomy, topography—size, capacity, fastenings, movements, blood vessels, nerves, lymphatics. Histologic anatomy, coats, or membranes, epithelia, follicles, glands, the pylorus.

Nov. 10, *Physiology of the Stomach*. Motility, saliva, gastric juice, composition, qualities, chemistry, fermentation in normal stomach, fat splitting ferments, etc.

Nov. 17th, *Digestion*. Process of normal digestion, absorption by stomach.

Nov. 24th, *Examination of Stomach*. Anamnesis, inspection, palpation, percussion, auscultation, inflation, gastro-diaphany, gastros-copy, Roentgen ray. Examination of stomach contents, how to obtain them, test meals, tests for hydrochloric acid, free and combined, diagnostic value, organic acids.

Dec. 1st, *Diseases of Stomach*. Gastric irregularities caused by bodily deformities, as postural, accidental, wilful, ptoses, gastritis, acute, chronic, etiology, pathology, symptoms, treatment by diet and dietetic measures by physical methods, water cure, drugs, artificial ferments, as pepsin, etc.

Dec. 8th, *Nervous Diseases of the Stomach*. Influence of the nervous mechanism on secretion, of gastric digestion, nervous dyspepsia, gastric neuroses, of the sensory nerves, as bulimia, anorexia, nausea, gastralgia, etc. Of the motor nerves, as lessened or excess of motility. Of the secretory nerves, as achylia, hyperchlorhydria, etc.

*Treatment* by lavage, drugs, hydrotherapeutic measures, etc.

Dec. 15th, *Gastric Ulcer*. Etiology, symptoms, treatment, surgical, non-surgical.

Dec. 22nd, *Public Meeting*. Topic to be named later.

#### BLUE EARTH COUNTY SOCIETY

The society met at Mankato, Sept. 27, 1909, with eight members present. Dr. Roy N. Andrews read a paper on "Tuberculin Therapy." Plans were made for a meeting of the members of the Blue Earth County Medical Society and of the Minnesota Valley Medical Society and for a reception and dinner to Dr. J. N. McCormack.

T. C. KELLY, Secretary.

#### RICE COUNTY SOCIETY

A meeting of the Rice County Medical Society was held Aug. 19th, 1909. The meeting occurred at the County Poor Farm, the physi-

cians being the guests of Dr. P. A. Smith, who gave a short talk on "Care of the Poor in Rice County."

FREDERICK V. DAVIS, Secretary.

#### MINNESOTA ACADEMY OF MEDICINE

The annual meeting of the Academy was held at the Minnesota Club, St. Paul, Wednesday evening, Oct. 6th, at 8 o'clock. There were present 36 members and two guests.

Dr. James Gilfillan made a clinical report of a tumor of the spinal cord, and exhibited the specimen removed post mortem.

Dr. John M. Armstrong showed some unique illustrations of large bullous eruptions in the desquamation stage of scarlet fever.

Dr. J. E. Moore reported a case of fracture of the head of the radius, treated by operation and removal of the fragment of bone with excellent results.

Dr. A. MacLaren reported a case of operation for tumor in the pelvic region which proved to be a prolapsed spleen with pedicle ten and a half inches long.

Dr. E. S. Judd of Rochester read his Inaugural thesis, entitled "Tumors of the Bladder."

The subject was discussed by Drs. J. E. Moore, S. Marx White, A. E. Benjamin and A. A. Law.

The election of officers for the ensuing year resulted as follows:

President, Dr. Haldor Sneve of St. Paul.

Vice-president, Dr. S. Marx White of Minneapolis.

Secretary-Treasurer, Dr. A. W. Dunning of St. Paul.

Executive Committee: The President, Vice-President, Secretary-Treasurer, and Dr. J. L. Rothrock of St. Paul, Dr. C. M. Carlaw of Minneapolis, and Dr. J. C. Litzenberg of Minneapolis.

A. W. DUNNING, Secretary-Treasurer.

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#### MISCELLANY

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#### TO THE MEDICAL PROFESSION OF THE WEST AND SOUTH

Up to the present time there has not been a concerted effort made to collect and preserve historical data in regard to the origin, evolution, and personnel of our profession in this part of our country. The result of this delinquency has been the total loss of much material that should

have been preserved, especially pertaining to medical schools and societies, and biographical matter in connection with the practitioners and teachers of medicine of bygone days. A good deal of material of this character is still obtainable if a systematic effort is made to locate and preserve it. It is in the possession of individuals, families, and private libraries, and will eventually be lost. The Western Association for the Preservation of Medical Records was organized in May, 1909, for the purpose of collecting the historical and biographical records of the profession of the West and South. We wish to preserve anything and everything pertaining to Western medicine and medical men and are anxious to enlist the active help and support of every member of the profession who is in sympathy with our aims. We want every one to become associated and identified with the work of our Association. There are no fees or obligations of any kind. We have made arrangements with the Lloyd Library, Cincinnati, O., for the proper housing of the material collected. The latter will be systematically arranged, catalogued, and properly preserved so that it can be made available for research work. We are particularly anxious to obtain—

1. Medical journals published in the West and South prior to 1880.
2. Medical books or pamphlets written or published in the West.
3. Manuscripts and autographs of early Western physicians.
4. Old diplomas and other documents of a medical character.
5. Proceedings of medical societies.
6. Reports of hospitals and other medical institutions.
7. Catalogues and announcements of Western medical colleges of all "schools."
8. Biographies and portraits of Western physicians.
9. Information and material of any kind pertaining to medicine and medical men and affairs in the West.
10. Curios of a medicohistorical character.

All contributions should be sent in care of the Librarian. In view of the fact that we are performing a labor of love and have no funds, our friends and associates will readily understand why all contributions sent by express or freight should be pre-paid so that no expense may accrue to the Association. The necessary expenses of the Association are at present being met by voluntary contributions of its organizers.

May we not count upon *your* active help and support? We would like to hear from every member of the profession who is interested in the proposed work.

C. A. L. REED, M. D., CHAIRMAN.

OTTO JUETTNER, M. D., SECRETARY.

A. G. DRURY, M. D., LIBRARIAN.

710 W. Eighth Street,  
Cincinnati, O.

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## NEWS ITEMS

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Dr. G. K. Hogman of Anoka, Minn., has gone to Vienna for three months' special study.

Drs. J. S. Davies and O. D. Platt of Granville, N. Dak., have announced the dissolution of their partnership.

Dr. J. J. Rateliff of Big Falls, Minn., has moved to Aitkin where he purchased the practise of Dr. Billsheim.

Dr. C. J. Holman of Mankato has returned to his practise after a month in Chicago, devoted to post-graduate work.

Dr. Bickford of Pine River, Minn., has gone to St. Paul to do special work in surgery and will possibly remove to Oregon later.

Dr. A. N. Varco of Miles City, Montana, has been appointed county physician to succeed Dr. Epplen who resigned to return to Idaho.

Dr. Elmer Nicholson of Minneapolis has moved to Brainerd, Minn., and entered into partnership with his brother Dr. Joseph Nicholson.

The United States Public Health and Marine Hospital Service reports one thousand cases of pellagra in the United States, scattered over thirteen states.

The proposal of Indian Commissioner Valentine to place the medicine men of the various Indian tribes throughout the country on a salary basis upon condition that they assist the regular agency physicians in their crusade against tuberculosis, constitutes a new departure in Indian affairs.

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## FOR SALE

New Sanatorium completely furnished and park of 10 acres with fine spring in the Blue Ridge mountains of North Carolina, near Asheville. Price \$15,000. Write for circular and particulars. Address, A. H., care this office.



## FOR SALE

Medical practice for sale, including drug store. I must leave in a short time. In the pine woods. No competition. Terms: One-half down on drug stock. Address Dr. J. J. Ratcliffe, Big Falls, Minn.

## ASSISTANT WANTED

A junior assistant is wanted at the State Hospital for Insane. Appointment for three years. Unmarried; some general hospital experience. An excellent opportunity for thorough training in general clinical medicine and pathology. Maximum salary, \$1,000, with board, lodging, and laundry. References required, and photograph. Address, Dr. H. A. Tomlinson, Supt., St. Peter, Minn.

## PRACTICE FOR SALE

I will sell my practice, which does not pay less than \$7,000 a year, to the physician who will buy my drug-store with a flat of five living rooms up stairs and a small drug stock. Price, \$5,000, one-half cash and the balance on time. This is a fine opening. Address G. S. M., care of this paper.

4-PASSENGER TOURING CAR FOR SALE—  
PRICE \$850.00

A 1909 Model. Run since June 1st. Fully equipped, —top, glass front, electric headlights, extra tires, tools,—complete for above price. Car and engine as good as new. Tires in first class shape. Car cost \$1,100, but price has advanced since then. Write for further facts and appointment to see the car.

M. W. MATTESON,  
61 E. 10th St., St. Paul, Minn.

## FOR SALE

Betz Body Bath Cabinet for sale cheap. Box 236, Bellingham, Minn.

## FOR SALE

Drug stores (snaps) with and without practices. Also drug store positions. Anywhere desired in U. S. or Canada. F. V. Kniest, R. P., Omaha, Neb.

## PRACTICE FOR SALE

A rare opportunity for a young man who desires to establish himself in a growing and progressive town of 7,000 inhabitants in the northern part of the state. Practice paid me \$4,000 cash this year. This chance is available to the one who buys my office furniture and furnishings of private room adjoining. I must leave by Dec. 1st on account of sickness. \$300 cash takes it. Address R. C., care of this office.

## FOR SALE

A second hand Static Machine, in first class condition. This is a splendid opportunity to get a first class outfit very cheap. L. E., care of this office.

## FOR SALE

A twenty-four inch Scheidel Coil; first class condition; capable of doing first class radio-graphic work. Used very little. Address E. C., care of this office.

## FOR SALE

Maxwell, Doctor's Model, 20-horsepower of 1907. Extras: top with front and side curtains; 3 oil and 2 gas lamps, generator and tools. 3 tires nearly new. All for \$600 if taken at once. Address P. O. Box 314, Albert Lea, Minn.

## ASSISTANT PHYSICIAN WANTED

An assistant is wanted by physician and surgeon in northern Minnesota to do general practice. One able to speak German or Austrian preferred. Personal application most satisfactory. Address G. N. Butchart, M. D., Hibbing, Minn.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH  
OF MINNESOTA FOR THE MONTH OF AUGUST, 1909

## REPORTED FROM STATE INSTITUTIONS FOR MONTH OF AUGUST, 1909

STATE INSTITUTIONS.													
	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio-Myelitis	Typhoid Fever	Diarrheal Dis- eases of Children
Fergus Falls, Hospital for Insane.....	7	3											
Rochester, Hospital for Insane.....	8												
St. Peter, Hospital for Insane.....	2												
Anoka, Asylum.....	1	1											
Hastings, Asylum.....	2		1										
Faribault, School for Deaf.....													
Faribault, School for Blind.....													
Faribault, School for Feeble Minded.....	5					2							
Owatonna, School for Dependents.....													
Stillwater, State Prison.....													
St. Cloud, State Reformatory.....													
Red Wing, State Training School.....													
Minneapolis, Soldiers' Home.....	6												1
Totals..	31	4	1			2							3

## REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF AUGUST, 1909

CITIES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio-Myelitis	Typhoid Fever	Diarrheal Dis- eases of Child- ren	Cancer	Puerperal Septicemia
Albert Lea.....	4,500	5,657	4	1				1							1		
Anoka.....	3,769	4,053	3														
Austin.....	5,474	6,489	7	3											2		
Barnesville.....	1,326	1,566	0														
Bemidji.....	2,183	3,800	9			1									4		
Blue Earth.....	2,900	2,364	1														
Brainerd.....	7,524	8,1	9												2	1	
Chaska.....	2,165	2,085	*														
Chatfield.....	1,426	1,300	1														
Cloquet.....	3,074	6,117	7	2	1										2		
Crookston.....	5,359	6,794	10	1											1	2	
Detroit.....	2,060	2,149	4	1											1		
Duluth.....	52,968	64,942	116	16	3	3		3	1						33	6	
E. Grand Forks.....	2,077	2,487	*														
Ely.....	3,712	4,045	6	2													
Eveleth.....	2,752	5,332	1												1		
Faribault.....	7,868	8,279	6													1	
Fairmont.....	3,440	2,955	0														
Fergus Falls.....	6,072	6,692	8	2		1									3		
Granite Falls.....	1,214	1,340	2													1	
Hastings.....	3,811	3,810	3														
Hutchinson.....	2,495	2,489	1													1	
Jordan.....	1,270	1,311	*														
Lake City.....	2,744	2,877	3	1													
Litchfield.....	2,280	2,415	1														
Little Falls.....	5,774	5,856	3												1		
Luverne.....	2,223	2,272	7														
Le Sueur.....	1,937	1,842	4													1	
Madison.....	1,336	1,604	1														
Mankato.....	10,559	10,996	8														
Marshall.....	2,088	2,243	1												1		
rose.....	1,768	2,151	2														
Minneapolis.....	202,718	261,974	245	29	2	10		1	1				1	4	41	18	
Montgomery.....	979	1,281	0														
Montevideo.....	2,146	2,595	1														1
Moorhead.....	3,730	4,794	3														
Morris.....	1,934	2,003	0														
New Prague.....	1,228	1,419	0														
New Ulm.....	5,403	5,720	3	1													
Northfield.....	3,210	3,438	4										1				
Ortonville.....	1,247	1,612	*														
Owatonna.....	5,561	5,651	5														
Pipestone.....	2,536	2,885	5													1	
Red Lake Falls.....	1,885	1,797	0														
Red Wing.....	7,525	8,149	8														
Redwood Falls.....	1,661	1,806	1														
Renville.....	1,075	1,229	1	1												1	
Rochester.....	6,843	7,233	25	2		1						2				2	
Rushford.....	1,100	1,133	0														
St. Charles.....	1,304	1,238	1	1													
St. Cloud.....	8,663	9,422	9	1		1									1	1	
St. James.....	2,607	2,320	1														
St. Paul.....	163,632	197,323	9	15	4	11	2	6	1				25	4	53	10	
St. Peter.....	4,302	4,514	7	1											1		
Sauk Centre.....	2,220	2,463	0														
Shakopee.....	2,046	2,069	0														
Sleepy Eye.....	2,046	2,312	2														
So. St. Paul.....	2,322	3,458	7	1									1				
Stillwater.....	12,318	12,435	3														
Thief River Falls.....	1,819	3,502	1													1	
Tower.....	1,366	1,340	0														
Tracy.....	1,911	2,015	2		1												
Virginia.....	2,962	6,056	17	1								1		1	11		
Wabasha.....	2,528	2,619	9	1	1											1	
Warren.....	1,276	1,640	1														
Waseca.....	3,103	2,838	2														
Waterville.....	1,260	1,383	0														
West St. Paul.....	1,830	2,100	2														
Willmar.....	3,409	4,040	5			1								1			
Windom.....	1,944	1,884	0														
Winona.....	19,714	20,334	22	2		1									2	2	
Worthington.....	2,386	2,276	3									1					

\*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF AUGUST, 1909

VILLAGES	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio-Myelitis	Typhoid Fever	Diarrheal Dis- eases of Children	Cancer	Puerperal Septicemia
Ada.....	1,253	1,515	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adrian.....	1,258	1,184	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Aitkin.....	1,719	1,896	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Akeley.....		1,636	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Alexandria.....	2,681	3,051	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Appleton.....	1,184	1,321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Belle Plaine.....	1,121	1,301	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Benson.....	1,525	1,766	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Breckenridge.....	1,282	1,850	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buffalo.....	1,040	1,124	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Caledonia.....	1,175	1,405	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canby.....	1,100	1,505	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cannon Falls.....	1,239	1,460	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cass Lake.....	546	1,062	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chisholm.....		4,231	19	1	1	1	1	1	3	1	1	1	1	1	10	1	1
Clayton.....	962	1,056	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Delano.....	967	1,023	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fosston.....	864	1,000	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Frazee.....	1,000	1,146	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Glencoe.....	1,780	1,805	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Glenwood.....	1,116	1,718	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Graceville.....	856	1,032	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Grand Rapids.....	1,428	2,055	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hallock.....	805	1,014	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hibbing.....	2,481	6,566	22	1	1	2	1	1	1	1	1	1	1	1	8	1	1
Jackson.....	1,756	1,776	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1
Janesville.....	1,254	1,205	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kasson.....	1,112	1,049	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kenyon.....	1,202	1,252	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lake Crystal.....	1,215	1,231	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lanesboro.....	1,102	1,041	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long Prairie.....	1,385	1,256	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Madelia.....	1,272	1,290	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Milaca.....	1,204	1,319	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mountain Lake.....	959	1,063	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
North Mankato.....	939	1,129	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
North St. Paul.....	1,110	1,400	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Olivia.....	970	1,019	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Osakis.....	917	1,056	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Park Rapids.....	1,313	1,719	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pelican Rapids.....	1,033	1,095	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Perham.....	1,182	1,366	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pine City.....	993	1,092	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plainview.....	1,038	1,140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Preston.....	1,278	1,320	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Princeton.....	1,319	1,704	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rush City.....	987	1,041	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rushford.....	1,062	1,040	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
St. Louis Park.....	1,325	1,491	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sandstone.....	1,189	1,589	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sauk Rapids.....	1,391	1,552	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scanlon.....		1,122	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South Stillwater.....	1,422	1,572	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Springfield.....	1,511	1,546	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Spring Valley.....	1,770	1,573	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Staples.....	1,504	2,163	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Two Harbors.....	3,278	4,402	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wadena.....	1,520	1,868	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wells.....	2,017	1,814	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
West Minneapolis.....	2,250	2,530	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheaton.....	1,132	1,346	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
White Bear Lake.....	1,288	1,724	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Winnebago City.....	1,816	1,553	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Winthrop.....	813	1,031	*	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Zumbrota.....	1,119	1,129	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State Institutions.....			31	4	1	1	1	2	1	1	1	1	1	1	1	3	1
Other parts of State.....	1,012,328	1,085,886	626	52	9	9	1	13	4	1	1	15	15	5	68	35	3
Total for State.....	1,751,395	1,979,658	1652	144	24	42	3	29	11	1	1	24	47	22	262	97	3

\*No report received. Health officer not doing his duty.



# THE JOURNAL OF THE MINNESOTA STATE MEDICAL

## REPAIRING INSTRUMENTS

Christian Kies, 816 4th St. So., will repair any surgical instrument that requires his services. He is also prepared to manufacture special pieces for special use. Being an expert in his line, physicians and hospitals need not send their instruments to Chicago or New York for repairing as Mr. Kies can save you time and money by having the work done here in our city.

## BRUSH AUTOMOBILES



There has probably been no announcement made in the automobile line for 1910 which has created more interest among the physicians of the Northwest than that of the Brush Runabout. Something of a sensation was experienced when this little car came into being, primarily because the price was low, relatively, and novelty was written all over the car. That merit, also, was a comparison seems to be borne out by the last year's performance.

The prime idea of the Brush Runabout Co. is to make a standard chassis which will be available for use under a great variety of conditions, and the accompanying cut of the Model D Coupe shows up one of the styles which is of special interest to physicians.

Among the other Models, of which there will be eight all told, Model D Standard is the regular car which represents a runabout type, at the very modest price of \$485.00.

## SWEDISH MASSAGE INSTITUTE

The Swedish Movement and Massage Institute, 409 Evanston Building, is installing a perfected apparatus for the scientific use of the douche, in all the forms which modern medical knowledge approves. By means of this contrivance it becomes possible to control the flow of water both as to temperature and pressure, and to vary instantly both these important factors. The rain douche, or shower bath, the needle or circular bath, the fine and coarse jets, the fan douche, the ascending douche, all these may be produced at will as each case indicates. The certainty and rapidity of temperature regulation makes possible the valuable Scotch douche, which consists of alternating streams of hot and cold water directed upon the patient.

The Swedish Movement Institute has for some time made use of other apparatus needful for the successful practice of hydrotherapy. The electric light bath cabinet, the thermophore for fomentations, the various forms of tub and friction baths, the sinusoidal electric bath, have proved their wide range of effectiveness in the experience of the institute.

With the addition to the foregoing, of the douche apparatus, the Institute brings its facilities for hydropathic

measures up to the level of the leading sanitariums of the country.

The light, cheerful operating rooms, the facilities for administering massage and medical gymnastics, the completeness of the hydrotherapeutic appliances, make up an ensemble on which the director of the Institute, Th. I. Thomsen, is to be congratulated.

Minneapolis physicians who, in the past, have entrusted their patients to Mr. Thomsen for treatment will be glad to note the Institute's improved facilities.

## GLYCO-THYMOLINE

Glyco-Thymoline is a deep claret-colored fluid with the taste and odor of thymol and eucalyptol. It contains benzo-salicylate of soda, methyl salicylate from *betula lenta*, eucalyptol, thymol, pini pumilionis, glycerine and solvents. The alcoholic content is 4 per cent.

A solution composed of Glyco-Thymoline, one part; water, three parts, approximates the alkalinity and salinity of the human blood, thus harmonizing with the secretions of tissues treated. When applied slightly warmed to the mucous membranes of the nose and throat it is soothing, solvent, mildly antiseptic, exosmotic and anesthetic. It promotes aseptic conditions and favors the restoration of normal functions of the mucous membrane. Internally Glyco-Thymoline is antacid, carminative, and anti-fermentative.

It is recommended in the treatment of all catarrhal diseases of the mucous membrane, particularly of the upper respiratory, utero-vaginal and rectal tracts, as a solvent, soothing, antiseptic and alkaline wash. Internally it has been successfully employed to overcome gastric hyperacidity, gastro-intestinal fermentation, summer diarrhea of infants, etc. In obstetrical and gynecologic practice it has already proven useful. Its mild, non-irritating properties will suggest its use whenever and wherever an alkaline antiseptic solution is desired. In dentistry it has also been extensively employed.

Externally Glyco-Thymoline may be used in solutions ranging from 10 per cent to full strength; internally it may be used one-fourth to two teaspoonsfuls in water as indicated.

The selection and quality of the ingredients, the methods employed in their combination, the formula itself and the constant unvarying uniformity of the finished product recommend it.

L. Vernon Briggs, M. D., Boston, Mass., *Boston Med. and Surg. Jour.*, April 19, April 26, May 3, 1908.

J. C. Montgomery, M. D., Charlotte, N. C., *Charlotte Med. Jour.*, March, 1897.

W. R. D. Blackwood, M. D., Philadelphia, Pa., *Medical Summary*, March, 1905.

Prof. B. S. Arnulphy, M. D., Paris, France, *The Clinique*, Sept., 1897.

David Walsh, M. D., London, *Med. Press and Circular*, London, Jan. 4, 1905.

Seth Scott Bishop, B. S., M. D., D. C. L., LL. D., Chicago, Ill.

M. E. Chartier, M. D., Faculty of Paris, France, June 12, 1904.

H. McNaughton Jones, M. D., R. U. I., M. C. H., M. A. O., F. R. C. S. I., F. R. C. S. L. M. R. C. P. I., London, Eng., 3rd Edition, 1902.

It is manufactured by The Kress & Owen Co., New York City.—American Medicine.

# THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

ESTABLISHED 1870

PUBLISHED TWICE A MONTH

VOL. XXIX

NOVEMBER 15, 1909

No. 22

## TRANSACTIONS OF THE MINNESOTA STATE MEDICAL ASSOCIATION

FORTY-FIRST ANNUAL MEETING

1909

### OFFICERS AND COMMITTEES

#### PRESIDENT

WILLIAM A. JONES, M. D. .... Minneapolis

#### FIRST VICE-PRESIDENT

FRANK W. DIMMITT, M. D. .... Red Wing

#### SECOND VICE-PRESIDENT

HUGH F. McGAUGHEY, M. D. .... Winona

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THOMAS McDAVITT, M. D. .... St. Paul

#### TREASURER

RICHARD J. HILL, M. D. .... Minneapolis

#### COUNCILOR—FIRST DISTRICT

E. H. HENSEL, M. D. (3 years) .... Alexandria

#### COUNCILOR—SECOND DISTRICT

J. G. MILLSPAUGH, M. D. (1 year) .... Little Falls

#### COUNCILOR—THIRD DISTRICT

J. L. ROTHROCK, M. D. (1 year) .... St. Paul

#### COUNCILOR—FOURTH DISTRICT

F. A. KNIGHTS, M. D. (3 years) .... Minneapolis

COUNCILOR—FIFTH DISTRICT AND PRESIDENT OF  
THE COUNCIL

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#### COUNCILOR—SIXTH DISTRICT

A. E. SPALDING, M. D. (2 years) .... Luverne

#### COUNCILOR—SEVENTH DISTRICT

F. A. DODGE, M. D. (3 years) .... Le Sueur

#### COUNCILOR—EIGHTH DISTRICT

A. O. BJELLAND, M. D. (2 years) .... Mankato

#### COMMITTEE ON SCIENTIFIC WORK

S. MARX WHITE, M. D. .... Minneapolis

W. R. HUMPHREY, .... Stillwater

THE SECRETARY ..... Ex-officio

#### COMMITTEE ON PUBLIC POLICY AND LEGISLATION

W. L. BEEBE, M. D., Chairman, .... St. Cloud

HALDOR SNEVE, M. D. .... St. Paul

W. H. HILL, M. D. .... Minneapolis

THE PRESIDENT ..... Ex-officio

THE SECRETARY ..... Ex-officio

#### MEMBERS OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

##### Delegates

##### FOR ONE YEAR

ARTHUR SWEENEY, M. D. .... St. Paul

##### FOR TWO YEARS

CHARLES F. McCOMB, M. D. .... Duluth

##### Alternates

##### FOR ONE YEAR

GEORGE DOUGLAS HEAD, M. D. .... Minneapolis

##### FOR TWO YEARS

ROLLO C. DUGAN, M. D. .... Lyota

#### COMMITTEE ON NECROLOGY

DONALD PRITCHARD, M. D. .... Winona

#### MEMBER OF THE NATIONAL LEGISLATIVE COUNCIL

W. L. BEEBE, M. D. .... St. Cloud

#### REPRESENTATIVES TO THE UNITED STATES PHARMACOPOEAL CONVENTION

##### Delegate

ROY HUMISTON, M. D. .... Worthington

##### Alternate

FRED J. PATTON, M. D. .... Duluth

# Roster of the House of Delegates

SOCIETIES	DELEGATES
Aitkin County.....	J. W. George .....Aitkin
Blue Earth County.....	J. W. Andrews .....Mankato
Blue Earth Valley.....	A. J. Franklin .....Blue Earth City
Brown-Redwood .....	J. S. Shrader .....Springfield
Camp Release District...	R. D. Zimbeck .....Montevideo
Central Minn. District...	H. C. Cooney .....Princeton
Chisago-Pine County...	H. P. Dredge .....Sandstone
Clay-Becker County.....	W. J. Awty .....Moorhead
Dodge County .....	
Freeborn County .....	W. L. Palmer .....Albert Lea
Goodhue County .....	H. E. Conley .....Cannon Falls
Hennepin County .....	J. W. Bell .....Minneapolis
Hennepin County .....	W. N. Chowning.....Minneapolis
Hennepin County .....	Jacob Hvoslef .....Minneapolis
Hennepin County .....	A. T. Mann .....Minneapolis
Hennepin County .....	L. A. Nippert .....Minneapolis
Hennepin County .....	C. P. Robbins .....Minneapolis
Hennepin County .....	W. D. Sheldon .....Minneapolis
Houston-Fillmore County	W. E. Browning .....Caledonia
Jackson County .....	Anton J. Moe .....Heron Lake
Kandiyohi-Swift County	Christian Johnson .....Willmar
Lyon-Lincoln County...	C. E. Persons .....Marshall
McLeod County .....	E. L. Maurer .....Brownton
Meeker County .....	I. W. Robertson .....Litchfield
Mower County .....	W. F. Cobb .....Lyle
Nicollet-Le Sueur County	H. A. Tomlinson .....St. Peter
Olmsted County .....	E. S. Judd .....Rochester
Park Region District ....	O. M. Haugan .....Fergus Falls
Ramsey County .....	Burnside Foster .....St. Paul
Ramsey County .....	E. F. Geer .....St. Paul
Ramsey County .....	V. J. Hawkins .....St. Paul
Ramsey County .....	F. J. Savage .....St. Paul
Ramsey County .....	Haldor Sneve .....St. Paul
Red River Valley District	C. E. Dampier .....Crookston
Rice County .....	W. A. Hunt .....Northfield
St. Louis County .....	N. L. Linneman .....Duluth
Scott-Carver County ....	James McKeon .....Montgomery
Southwestern District...	W. D. Beadie .....Windom
Stearns-Benton County..	W. L. Beebe .....St. Cloud
Steele County .....	A. B. Stewart .....Owatonna
Upper Mississipi District	Walter Courtney .....Brainerd
Wabasha County .....	
Waseca County .....	
Washington County.....	W. R. Humphrey .....Stillwater
Watonwan County .....	W. J. McCarthy .....Madelia
West Central District...	J. T. Leland .....Herman
Winona County .....	C. P. Robbins .....Winona
Wright County .....	

Place of Next Meeting

MINNEAPOLIS

October 8 and 9, 1910



# Proceedings

OF

# The House of Delegates

FIRST SESSION, TUESDAY, OCT. 12, 1909

The first session of the House of Delegates was called to order by the President, Dr. Cornelius Williams, at 2:15 o'clock in Union Hall, Winona, Minnesota.

A quorum having been declared, the President appointed as the Committee on Credentials Dr. W. L. Beebe, of St. Cloud, and Dr. J. D. Mills-paugh, of Little Falls.

The minutes of the previous session were then read by the Secretary and approved.

The President: The next order of business is the report of the Secretary.

## REPORT OF THE SECRETARY

THOS. McDAVITT, M. D.

The Secretary has to report a membership to October 11, 1909, of 1,271; 1,217 were reported last year.

The reports from the different component societies have been sent in on the official blanks with comparative regularity and have shown usually a good attendance, with a commendable amount of interest and many valuable and interesting papers read.

Only one new county society, Jackson County, has been organized.

Dr. Parks Ritchie, appointed as necrologist, declined the appointment, and no other appointment was made; consequently, no report need be expected at this meeting.

The reports from the different societies in reference to the vote on the adoption of some scheme of medical defense have been favorable, and a great majority of the delegates are reported as having been instructed to vote in favor of the most favorable scheme.

The standing and special committees have rendered valuable and efficient service, as their different reports will show.

Upon motion, the report of the Secretary was adopted and ordered placed in file.

The President: We will now listen to the reading of the Treasurer's report.

The Secretary: Our Treasurer, Dr. Hill, is unable to be present on account of illness. His report, however, has been audited and acted upon by the Councilors; compared with the Secretary's report and found correct. Do you wish me to read the entire report, Mr. President?

The President: Unless there is some special request, the action of the Council will be recognized.

The Secretary: I will read simply the totals.

## TREASURER'S REPORT

R. J. HILL, M. D.

Dr. R. J. Hill, Treasurer, in account with the Minnesota State Medical Association

1908	Dr.		
		Balance on hand June 1, 1909.....	\$3,891.27
June	9	Ramsey County Society.....	40.00
	9	Red River Valley Society.....	4.00
	9	St. Louis County Society.....	16.00
	9	Houston-Fillmore Society.....	2.00
	9	Freeborn County Society.....	4.00
	18	Hennepin County Society.....	4.00
	23	Blue Earth Valley Society.....	4.00
	23	Wright County Society.....	2.00
July	17	Kandiyohi-Swift Society.....	2.00
	17	Chisago-Pine Society.....	2.00
	17	Steele County Society.....	2.00
	17	St. Louis County Society.....	14.00
	28	Hennepin County Society.....	2.00
	28	Blue Earth Valley Society.....	6.00
Sept.	10	Olmsted County Society.....	6.00
	10	Hennepin County Society.....	2.00
	10	Red River Valley Society.....	2.00
	10	Ramsey County Society.....	6.00
	19	Kandiyohi-Swift Society.....	2.00
	26	Blue Earth Valley Society.....	2.00
	26	Central Minnesota Society.....	2.00
Oct.	9	Hennepin County Society.....	2.00
Nov.	5	Freeborn County Society.....	2.00
	5	Red River Valley Society.....	2.00
	17	Olmsted County Society.....	2.00
Dec.	8	Southwestern Society.....	2.00
	12	Kandiyohi-Swift County Society.....	2.00
	14	Hennepin County Society.....	2.00
1909			
Jan.	5	St. Louis County Society.....	4.00
	5	Stearns-Benton Society.....	4.00
	14	Goodhue County Society.....	26.00
	27	Blue Earth Valley Society.....	18.00
	29	Blue Earth County Society.....	2.00
Feb.	6	Ramsey County Society.....	34.00
	10	Goodhue County Society.....	8.00
Mar.	3	Jackson County Society.....	14.00
	3	Lyon-Lincoln Society.....	28.00
	11	Nicollet County Society.....	28.00
	16	Red River Valley Society.....	38.00
	16	Scott-Carver Society.....	24.00
	18	Southwestern Medical Society.....	70.00
	23	Meeker County Society.....	22.00
	23	Red River Valley Society.....	12.00
	23	Upper Mississippi Society.....	68.00
	23	Wabasha County Society.....	24.00
	23	Aitkin County Society.....	8.00
	29	St. Louis County Society.....	198.00
	29	Stearns-Benton Society.....	68.00
	29	Clay-Becker Society.....	40.00
	29	Freeborn County Society.....	30.00
	29	Blue Earth Valley Society.....	10.00
Apr.	1	Wright County Society.....	22.00
	1	Winona County Society.....	48.00
	1	Goodhue County Society.....	6.00
	1	Southwestern Society.....	2.00
	1	Washington County Society.....	32.00
	1	Red River Valley Society.....	16.00
	2	Mower County Society.....	38.00
	2	Chisago-Pine Society.....	20.00
	2	Park Region Society.....	58.00
	2	Watsonwan County Society.....	10.00
	8	Hennepin County Society.....	566.00
	8	Houston-Fillmore Society.....	26.00
	8	Kandiyohi-Swift Society.....	24.00
	8	Lyon-Lincoln Society.....	2.00
	8	Ramsey County Society.....	192.00
	8	Watsonwan County Society.....	2.00
	8	Rice County Society.....	40.00
	8	Camp Release Society.....	58.00
	8	Brown-Redwood Society.....	40.00
	8	Blue Earth County Society.....	58.00
	8	McLeod County Society.....	20.00
	8	Waseca County Society.....	20.00
	8	Scott-Carver Society.....	2.00
	8	St. Louis County Society.....	2.00
	9	Hennepin County Society.....	2.00
	9	Dodge County Society.....	18.00
	13	Central Minnesota Society.....	14.00
	13	Hennepin County Society.....	2.00
	13	Red River Valley Society.....	2.00
	15	Steele County Society.....	22.00
	16	Olmsted County Society.....	40.00
	16	Ramsey County Society.....	8.00
	19	Stearns-Benton Society.....	6.00
	19	Waseca County Society.....	2.00
	19	Lyon-Lincoln Society.....	2.00
	19	Olmsted County Society.....	6.00
	22	Ramsey County Society.....	6.00
	23	Camp Release Society.....	6.00
	23	Goodhue County Society.....	2.00

	28	Olmstead County Society .....	14.00		22	A. G. Long, stenographer, annual meet- ing and transcribing.....	154.50
	28	Stearns-Benton Society .....	2.00		1909		
	28	Upper Mississippi Society .....	6.00	Jan.	2	W. A. Jones, President Lancet Co.....	101.17
	28	McLeod County Society .....	2.00		2	Clara Torgerson, stenographer to Secre- tary .....	10.00
	28	Camp Release Society .....	10.00		21	Brown, Treacy & Sperry Co., bills for Secretary .....	2.50
	28	Houston-Fillmore Society .....	6.00		21	St. Paul Book & Stationery Co., paper for Secretary .....	.57
	28	Clay-Becker Society .....	2.00		21	Jackson & Smith, postal cards for Sec- retary .....	9.00
May	3	Chisago-Pine Society .....	4.00	Feb.	1	W. A. Jones, President Lancet Co.....	106.67
	3	Blue Earth County Society .....	4.00		1	Clara Torgerson, stenographer to Sec- retary .....	15.00
	7	Hennepin County Society .....	40.00		4	J. W. Andrews, Expense Committee Medical Legislation .....	5.36
	7	West Central Society .....	32.00		4	Hotel Ryan, Committee Medical Legis- lation .....	10.50
	7	McLeod County Society .....	4.00		11	Thos. McDavitt, Secretary, incidentals.	15.00
	7	Mower County Society .....	4.00		18	Peters & Bailey, note-heads for Secre- tary .....	3.00
	11	Ramsey County Society .....	18.00		18	Peters & Bailey, 500 note-heads for Councilors .....	1.75
	11	West Central Society .....	2.00		18	Peters & Bailey, envelopes, printed for Secretary .....	23.85
	11	Camp Release Society .....	2.00		18	Peters & Bailey, printing 250 large en- velopes for Secretary .....	1.50
	13	Camp Release Society .....	2.00	Mar.	2	W. A. Jones, President Lancet Co.....	101.17
	15	Scott-Carver Society .....	2.00		2	Clara Torgerson, stenographer to Sec- retary .....	15.00
	18	Houston-Fillmore Society .....	2.00		4	Jas. A. Nowell Co., Secretary's bond...	5.00
	18	West Central Society .....	2.00	April	6	W. A. Jones, President Lancet Co.....	101.17
	20	Camp Release Society .....	2.00		6	Clara Torgerson, stenographer to Sec- retary .....	10.00
	21	Camp Release Society .....	2.00		20	W. L. Beebe, Chairman Committee Medical Legislation, expense of Com- mittee to date .....	430.00
	26	Central Minnesota Society .....	10.00	May	3	W. A. Jones, President Lancet Co.....	101.17
	26	Camp Release Society .....	2.00		3	Clara Torgerson, stenographer to Secre- tary .....	8.00
	28	Mower County Society .....	2.00		7	Hotel Ryan, Committee Revision State Medical Law .....	10.50
	29	Houston-Fillmore Society .....	2.00		20	McGill-Warner Co., 5,000 membership cards for Secretary .....	9.00
June	5	Ramsey County Society .....	30.00		22	Nellie E. Taylor, work on roster for Secretary .....	4.50
	5	Aitkin County Society .....	2.00	June	1	Thos. McDavitt, salary as Secretary to date .....	300.00
	5	Camp Release Society .....	2.00		1	R. J. Hill, salary as Treasurer to date.	100.00
		Total receipts .....	\$6,455.27		2	Clara Torgerson, stenographer to Sec- retary .....	8.00
		Total expenses to June 8th, 1909.....	2,855.81		5	W. A. Jones, President Lancet Co.....	100.00
		Balance on hand .....	\$3,599.46		8	Luella Fiening, stenographer, annual report .....	2.00
Dr. R. J. Hill, Treasurer, in account with the Minnesota State Medical Association							\$2,855.81
1908							
June	9	Northwestern Lancet, roster and labor on list .....	\$7.50				
	9	Ramsey County Society, paid twice (J. M. A. Gravelle, J. C. Harding).....	4.00				
	17	Dr. J. W. Andrews, expense Legislative Committee .....	3.72				
	30	W. A. Jones, President Lancet Co.....	99.42				
	30	Clara Torgerson, stenographer to Sec- retary .....	10.00				
July	14	Dr. J. W. Andrews, stamps, envelopes, etc., Legislative Committee.....	7.00				
	14	Free Press Printing Co., Legislative Committee .....	6.00				
	14	Peters & Bailey, envelopes and printing	11.72				
	14	Peters & Bailey, note-heads for Secre- tary .....	5.50				
	28	Peters & Bailey, 500 envelopes, printed for Secretary .....	11.72				
	28	J. A. Broberg, Secretary Blue Earth Valley Society, paid twice.....	2.00				
	31	W. A. Jones, President Lancet Co.....	100.00				
	31	Clara Torgerson, stenographer to Sec- retary .....	8.00				
Sept.	10	Dr. Justus Mathews, return fee for Drs. Donald Balfour and Donald Guthrie .....	4.00				
	10	W. A. Jones, President Lancet Co.....	100.75				
	10	Clara Torgerson, stenographer to Sec- retary .....	8.00				
	12	Peters & Bailey, programs and en- velopes, annual meeting.....	32.11				
	14	Frank W. Bigelow, 500 stamped en- velopes for Treasurer .....	13.20				
	26	Peters & Bailey, Delegates' credentials	2.75				
Oct.	9	Clara Torgerson, stenographer to Secre- tary .....	10.00				
	9	W. A. Jones, President Lancet Co.....	100.75				
	13	John T. Rogers, Chairman Committee Scientific Work .....	140.00				
	13	Thos. McDavitt, Entertainment Com- mittee .....	47.95				
	13	A. G. Long, stenographer, annual meet- ing .....	75.00				
	14	Brown & Bigelow, badges annual meet- ing .....	19.50				
	16	Peters & Bailey, signs, annual meeting	3.50				
	16	H. G. Neal, rent of chairs, annual meet- ing .....	4.50				
	29	Grace Temple, stenographer (W. A. Dennis) .....	2.00				
	29	S. G. Pendergast, janitor, annual meet- ing .....	16.00				
	31	Clara Torgerson, stenographer to Secre- tary .....	8.00				
	31	Wilson & Force, Treasurer's bond premium .....	15.00				
	31	W. A. Jones, President Lancet Co.....	101.17				
Dec.	2	W. A. Jones, President Lancet Co.....	101.17				
	2	Clara Torgerson, stenographer to Sec- retary .....	8.00				

On motion of Dr. H. A. Tomlinson, the report of the Treasurer was adopted and ordered placed on file.

The President: We will now have the report of the Council and Councilors.

## REPORT OF COUNCILORS

DR. H. M. WORKMAN, TRACY

The Councilors met in committee and audited the Secretary's and Treasurer's reports. They recommend that they have the privilege of loaning about \$2,000 of the cash on hand.

The President: Investing it?

Dr. Workman: Investing it. They also recommended that the bond of the Secretary and Treasurer be placed in the hands of the President of the Council.

The President: This verbal report is adequate. What will you do with it?

Dr. J. W. Andrews: I do not understand what the doctor reported in reference to the investment of funds?

Dr. Workman: Last year the matter was before the Council. We now have \$3,600, or did have the 1st of June. We could loan \$2,000 of

that money and have it drawing interest. It must be loaned by somebody, and the suggestion a year ago was that it be left to the Council. Now, we want the House of Delegates to give us that authority. We might take it, but we want the House to approve it.

Dr. Andrews: I move then that the Council be authorized to invest \$2,000 of the funds on hand at their discretion.

Dr. E. F. Geer: Could I ask the doctor if the Councilors have decided on any form of investment?

The President: That has not been discussed at all. That would be left to the discretion of the Council.

Dr. Andrews: We ought not to limit the amount to \$2,000. My motion should state, such an amount as may be deemed wise.

The motion was duly seconded and being put to vote prevailed unanimously.

The President: Are there any reports of standing committees?

The Secretary: We should at this time receive a report on program. Dr. Westbrook is the chairman. He is not a member of this body, but a member of the committee. The other standing committee is the Committee on Public Policy and Legislation. Dr. W. L. Beebe is the chairman.

The President: Are there any special committees who should report?

The Secretary: The Committee on Medical Defense. The chairman is W. J. McCarthy, and the other members are R. C. Dugan, R. E. Farr, E. S. Judd, and W. F. Adams. There is also the Committee on Revision of the State Medical Law; J. W. Andrews, Chairman. The other members are A. E. Benjamin, Wm. Davis, C. F. McComb, and J. L. Rothrock.

The President: The committee on credentials is ready to report.

#### REPORT OF COMMITTEE ON CREDENTIALS

W. L. BEEBE, J. D. MILLSAUGH

Your Committee has examined the credentials submitted and finds the following entitled to be seated as accredited delegates:

Delegates	Society
James W. George.....	Aitkin County
J. W. Andrews.....	Blue Earth County
A. J. Franklin.....	Blue Earth Valley
J. S. Shrader.....	Brown-Redwood
R. D. Zimbeck.....	Camp Release District
H. C. Cooney.....	Central Minn. District
H. P. Dredge.....	Chisago-Pine
W. J. Awty.....	Clay-Becker
W. L. Palmer.....	Freeborn County
H. E. Conley.....	Goodhue County
L. A. Nippert.....	Hennepin County
J. Hvoslief.....	Hennepin County
A. T. Mann.....	Hennepin County
J. Clark Stewart.....	Hennepin County
W. D. Sheldon.....	Hennepin County
C. P. Robbins.....	Hennepin County
Anton J. Moe.....	Houston-Fillmore
Christian Johnson.....	Kandiyohi-Swift
C. E. Persons.....	Lyon-Lincoln
E. L. Maurer.....	McLeod County

J. W. Robertson.....	Meeker County
W. F. Cobb.....	Mower County
H. A. Tomlinson.....	Nicollet-LeSueur
E. S. Judd.....	Olmsted County
O. M. Haugan.....	Park Region District
Haldor Sneve.....	Ramsey County
E. F. Geer.....	Ramsey County
V. J. Hawkins.....	Ramsey County
F. J. Savage.....	Ramsey County
C. E. Dampier.....	Red River Valley
W. A. Hunt.....	Rice County
N. L. Linneman.....	St. Louis County
James McKeon.....	Scott-Carver
W. D. Beadie.....	Southwestern
W. L. Beebe.....	Stearns-Benton
A. B. Stewart.....	Steele County
Walter Courtney.....	Upper Mississippi
W. T. Humphrey.....	Washington County
J. T. Leland.....	West Central
C. P. Robbins.....	Winona County

On motion of the Secretary, the report was unanimously adopted and ordered placed on file.

At subsequent sessions the following delegates were reported by the Committee on Credentials:

Delegates	Society
H. E. Conley.....	Goodhue County
W. J. McCarthy.....	Watsonwan County
E. Y. Chilton.....	Wright County
J. W. Bell.....	Hennepin County
Wm. N. Chowning.....	Hennepin County
Burnside Foster.....	Ramsey County
W. E. Browning.....	Houston-Fillmore

Dr. Workman: In view of the fact that the Council is authorized to loan funds up to a certain amount they might see fit, I now move that the delegates ratify the action of the Council.

The motion was duly seconded, and on being put to vote prevailed unanimously.

The President: Have you the report of any special committee?

The Secretary: Not in writing; no, sir.

The President: Is the chairman of any special committee ready to report? What were those committees?

The Secretary: The Committee on Medical Defense is one.

The President: Who is the chairman?

The Secretary: Dr. McCarthy, of Madelia, but he is not here.

Dr. E. S. Judd: I think the Committee has no other report to make.

The Secretary: I think it is merely a question of the adoption or rejection of their report.

The President: The report last year?

The Secretary: Yes, sir. I will state, as I stated in my report, that I received official communications from, I think, all of the counties, or, at least, from most of them, to the effect that the report of this committee had been ratified by the county societies and the delegates instructed to vote for its adoption at this time.

The President: Is it the pleasure of the House of Delegates to take up this matter at this time?

The Secretary: Before that is done, if it meets with the approval of the House, I might read you some reports from the different states that have ratified this work of medical defense, showing how it has worked in the different



states. I have only a short report from each one.

Dr. Geer: I would like to ask if there is not a printed report that we could see. I heard the report read last year, but, personally, I should like to see that report and look it over.

The President: Was not that report published?

The Secretary: Published in the proceedings. I will read the report of the committee last year.

The Secretary then read the report of the Committee on Medical Defense as published in THE JOURNAL of November 1, 1908.

The President: Unless there is an objection, it will be the sense of the House of Delegates that the report of that committee is before the House and open for discussion.

Dr. Andrews: I move that the report of the Committee on Medical Defense be adopted by this House of Delegates.

The motion was seconded by Dr. Geer.

Dr. W. A. Hunt: That part which refers to the Councilor of the district investigating suits I should like to have reread—Chapter VII amended by Section 6.

The amendment was again read by the Secretary.

Dr. Hunt: I thought this was provided for in the other amendment; that the application was made direct to the Secretary of the Minnesota State Medical Association, and in that way would prevent any round-about way of investigation.

The President: It would be the duty of the Secretary to immediately refer it to the Councilor.

Dr. Andrews: It was observed in the reading of the letter from Dr. Moyer, of Chicago, that he suggested that one dollar a member would probably not be sufficient in the future. We are limited to a dollar a member. Perhaps that is wise, and perhaps we ought to leave that open.

The Secretary: That could be very readily increased at any meeting of the House of Delegates. This is only an amendment to the by-laws and not to the constitution.

Dr. W. F. Cobb: Is there any distinction made in the report of this committee between civil and criminal malpractice?

The Secretary: No, sir.

Dr. Cobb: I do not think the Medical Society wants to defend men sued for criminal malpractice.

The President: This, as I understand it, is on the defense of civil actions.

The Secretary: I do not think there is any distinction, but the Council is given absolute control of that matter, and if they do not see proper to defend the case, they have the perfect right to refuse to defend it.

Dr. Haldor Sneve: I think it would be wise if the State Association did not use the term "Medical Defense." I think if cases have to go

to juries that it would make it prejudicial to the defendant in the case to have it announced that the case is defended by the State Association and that the Association has a fund for that purpose. It has been a matter of observation that that is a fact in nearly all actions that are defended by surety companies. I think the suggestion of Dr. Moyer a good one, that it be called a "Medico-Legal Fund" and not a "Medical Defense Fund."

Dr. Walter Courtney: I think that is a good suggestion. I heartily agree with that.

Dr. Geer: I move that the name be changed from "Medical Defense Fund" to "Medico-Legal Fund."

The motion was numerous seconded and being put to vote unanimously carried.

The President: Are you ready for the question?

Dr. Hunt: There is just one other technical point. The date should be 1910 instead of 1909.

Dr. F. J. Savage: I have talked with several people on this subject and would like to ask what relationship this would bear to any man who carried insurance in one of the regular companies in which they provided indemnity—whether or not this would be compulsory. If it was, you might as well drop all the other insurance policies.

The President: That is the intention.

Dr. Savage: I would like to ask if this amendment is adopted, if it is compulsory to place the defense of malpractice suits in the hands of the State Association.

The President: I do not think that it could be held that it is compulsory; it is a privilege. We could not compel a man to do it.

Dr. Savage: I think it ought to be the privilege of the individual member whether or not he should be protected by the society or carry insurance.

Dr. H. A. Tomlinson: This matter was discussed very thoroughly last year from all these standpoints. There is nothing compulsory about it. It was considered necessary to make it compulsory that every member of the Association should contribute; to be just as much a part of his dues as any other part, but his privilege to take advantage of it as he saw fit. He might have any other insurance he saw fit. But to continue as a member of the State Association he must subscribe to this Medical Defense Fund.

Dr. J. Clark Stewart: Does not the wording of that one clause exclude all other insurance? I think it says: "sole power to conduct the case," whereas other policies specify that there shall be joint management of the case. I think the reading of that article would exclude any one carrying other effective insurance and carrying both. In other forms of insurance you can have the joint service.

The President: "Sole charge of the case" would apply only as far as this Association is concerned. I think that would be the interpretation naturally put on that clause.

Dr. Tomlinson: My recollection is that this also was discussed last year, and the President's interpretation was the one put on that clause by the House of Delegates—that sole charge meant so far as the State Association is concerned.

Dr. Andrews: Dr. Tomlinson's remarks when he was on the floor before suggested that this point ought to be carefully looked into. Does the refusal on the part of any member of any component society to pay this dollar exclude him from membership both in the State Association and in his county society?

The President: It is part of his dues, as I understand it.

Dr. Courtney: I am firmly of the belief from what I know of the country practitioners, no matter what the amount may be set aside for this purpose, that it will do more to bring in the men who have stayed outside medical societies than anything else, and I am satisfied it will drive out very few that we have as members at present.

The Secretary: I think the point that Dr. Stewart referred to comes under Article IV.

The Secretary then reread Article IV.

Dr. Cobb: I happen to be one of those who have a little insurance in an outside way, and this insurance company does not confine the applicant to the selection of the attorney by the company, but they allow the one who is sued, if defense is made, to select an attorney. I cannot see any reason why in a case of that kind, where a physician has insurance in one of these companies, it cannot be handled mutually, giving the physician a right to ask counsel in that case, provided it does not cost the Minnesota State Medical Association anything.

The President: It could easily be remedied by amending that particular clause to read, "Shall have charge of the defense and in conjunction with the attorney of the defendant."

Dr. Cobb: "If he requests." Sometimes two attorneys will work better than one. Suppose the physician is dissatisfied with one attorney, he could have the privilege of calling in some one else for counsel. In this case it is to be put up to one sole attorney. I do not like it.

Dr. Millspaugh: I move that after the words "sole charge of the case" the words "and some other attorney provided by the defendant" be added. That is to give the defendant the option of selecting an attorney to act in conjunction with the attorney provided by the Association, and if he is carrying other insurance he would have the right to employ this attorney. I do not see why that would not be advisable.

Dr. Tomlinson: Would not the ground be cov-

ered by using the words "so far as the action of the Minnesota State Medical Association is concerned"? That would leave it entirely optional. If that clause is made to read "shall have sole charge so far as the Minnesota State Medical Association is concerned" I think it would cover the ground.

The Secretary: Mr. President, in going beyond the wording of this act we might say that this has been drawn very carefully by competent legal authority, and it has passed through the courts in different states. It is almost the exact wording of the act passed in Illinois and New York and Pennsylvania. The objection that Dr. Cobb makes is purely one of detail in administration, more than anything else. There is not going to be any trouble about the matter at all, but if the Association expects to do this thing legally, it cannot go beyond the wording of this act, because as soon as they do that they are going to get into legal complications that will be hard for the State Medical Association to control. There is not going to be any trouble if the doctor wants to have his own legal counsel, but there must be sole management of the case and sole control of it under all circumstances by the Association. He can have all the counsel he wants, and he will have, just as anybody will have, a perfect right to call in counsel in a legal case, but we must have absolute control of these cases, or else we are going to get into legal difficulties. This act has been drawn very carefully. Nobody has ever heard of any counsel who objected to another coming in. I think the objections are imaginary, and this particular detail of the administration will work out perfectly.

Dr. J. Clark Stewart: That may be all right, but suppose some man elects to carry insurance with an old-line company. They will defend the suit and bear a certain portion of the expense. How will that affect a man's standing with the Travelers if he is in this at the same time?

Dr. Geer: I think the point taken by the Secretary is a very good one, indeed. It was shown very thoroughly through this legal authority last year that you could have all the counsel that you want; that is a recognized right at any time. I believe that if any of us get into trouble we can call in as many as we like, but I am sure none of the men here will have occasion to use it. Dr. Courtney states that the country members would be in favor of paying this small amount, and I am sure I can speak for about three hundred city members who would be very glad to help some unfortunate member to that small extent. I am sure that is a very small price to pay for the co-operation of so many men. We shall be all bound together to defend each other, and if we want to call in these other companies, we have a right to do so.

Dr. Courtney: There is one other thing that suggests itself to my mind. It is but a few years ago since these medical-defense companies were originated. I think it is not over twelve years since Dr. Williams, the first representative of the Fort Wayne Company, went through this country and solicited membership. I know no end of men, including myself, who were glad to avail themselves of a membership in that defense organization, and pay twenty and twenty-five dollars to have it. Didn't question, didn't know how responsible they were. We wanted something that looked fairly tangible. Here we have an opportunity now at a dollar; practically nothing. I do not see why we should hesitate. Those companies made fairly good, and we stand to make better than they ever did.

(Cries of "Question, question.")

Dr. V. J. Hawkins: I presume you are all getting anxious to have the matter settled, but this evidently is quite a serious point in the adoption of this plan. How many of us would be willing to drop our companies that promise an indemnity in case we should lose our suit? Very few of us that would. Now, the point to know right now to begin with is whether we can go on with the insurance we are carrying now and still have the aid or protection of the State Medical Association through their attorney. I believe that the two will work out all right, but I think it is well for you to settle right now whether if you are threatened with a suit you can notify the companies that you have been insured in to furnish you indemnity if necessary, and at the same time notify the legal authority in your state medical defense. As I understand this, the State Association demands that you look up all of the evidence. If any of you have had any experience in that, you will find it is mighty hard to look up the evidence yourself. You must have an attorney to do it, and if the State Association isn't going to do it, I think it is wise that you carry your old-line insurance, because they will take the matter up, and with what little you can help them they will get your evidence and that is the important thing to do before the suit is started. I think the two will work together, but it should be settled now.

The President: I think that has been definitely settled.

Dr. Christian Johnson: I do not see how you can settle it except to refer it to an attorney. We are not lawyers, and we cannot settle it. For that reason it looks to me as if we will have to take it just as it is or else refer it to legal talent to settle. We were instructed at our homes in our county societies to vote for this as it is, unless we are thoroughly convinced that we can amend it for the better. I think that is all right. Unless we are thoroughly convinced, we could

not vote for anything. For that reason I move the adoption of the report as it is now.

Dr. Cobb: Wasn't there an amendment made?

Dr. Tomlinson: I simply suggested an amendment.

Dr. Geer: I would move that this take effect April 1, 1910.

Dr. Hawkins: You want some money in the treasury. Why not make this April 1, 1909, and make your first assessment this year. Next year you will get in a dollar, and you will have something ahead to begin your defense with, employ your attorneys, and get things ready.

The Secretary: Mr. President, in that event, we will have to defend any malpractice suits started since April 1, 1909.

The President: How would it do to make it the 12th of October, 1909?

A Delegate: Have the dues not been paid this year?

The Secretary: They have.

A Delegate: How can you collect the extra dues then?

The Secretary: I think the safest plan would be to make it April 1, 1910.

Dr. Andrews: Why not make it January 1st?

Dr. Hunt: I second the motion as made to have the chapter take effect April 1, 1909.

The President: The motion has been made to make this operative from April 1, 1909, and that motion has been seconded. Are you ready for the question?

Dr. Cobb: I move an amendment to that motion to make it read April 1, 1910, instead of April 1, 1909.

Upon being put to vote, the motion as amended prevailed.

The President: What is the next committee to report?

The Secretary: The next report is that of the Committee on the Revision of the State Medical Law. Dr. Andrews is the chairman of that committee.

## REPORT OF COMMITTEE ON REVISION OF STATE MEDICAL LAW

DR. J. W. ANDREWS

Winona, Minn., October 12, 1909.

To the President and Members of the House of Delegates—

Gentlemen: Your special committee appointed to draft a revision of the Minnesota state law regulating the practice of medicine beg leave to submit the following:

This Committee was appointed at the Duluth meeting two years ago. Recognizing the importance of our task we began work early by securing a copy of the laws regulating the practice of medicine in every state and territory in the Union. We then met as a committee and drafted what, in our judgment, was best adapted to the profession in Minnesota. We placed this in the hands of a member of the legislature who had had large experience in drafting bills to come before



that body. After receiving the revised bill from him, we met again and prepared the one which we presented for your consideration at the Saint Paul meeting one year ago. After rather a lengthy discussion and a few recommendations the bill was referred back to the committee for further revision. The committee held another meeting at the Ryan hotel, Saint Paul, Jan. 18th, last, at which time it was unanimously determined to employ three competent attorneys, to put in legal form the bill which we had again revised as per recommendation of this body. B. C. Taylor, H. L. Schmitt, and Judge Loren Cray, men of great ability and extensive learning in the law, were employed. These attorneys carefully examined the laws of many of the states, and the decisions of the courts for or against the provisions of laws regulating the practice of medicine in states where these laws had been tested. The result was the present bill somewhat modified by a meeting of the Committee at the Ryan hotel the latter part of April. Mr. B. C. Taylor, one of the attorneys, was present at this meeting. The bill being thus prepared in its present form we caused the same to be printed; which printed copy you have in your hands at this time. One of these copies was sent to each and every component society in the state of Minnesota, with the request that it be carefully examined, and either approved or returned with recommendations. The following replies were received. The Committee is pleased to note that copies were requested by several delegates before coming to this meeting of the House of Delegates. Such delegates will be best prepared to discuss the bill at this time.

The Committee regrets that we had to eliminate a few provisions relative to advertising, for the reason that the attorneys were unanimous in the opinion that these provisions would not be sustained in any court of justice.

Your Committee has spent a great deal of time and care in preparing this bill, and now respectfully submits it for your careful consideration.

Dr. Andrews: Perhaps it is as well, instead of taking your time to read the communications from the various component societies, to repeat that the Committee sent one of these bills to every component society with the request that they examine the bill carefully and either approve it or send it back with recommendations. These are the letters (indicating) from the secretaries of a number of societies. Many of them instructed their delegates to approve the bill, and some of them have so notified the Secretary. These letters are here for your perusal if any of you wish to read them. They are all approved. There is a letter from one society that perhaps I ought to refer to, though the delegate is probably here and will himself refer to it. That is, the changing of one word in the bill. I do not just now remember the clause, but it was the changing of one word. In looking that over myself, I could not see that the word as it is in the bill is misleading, but you can take that up in the discussion of the bill.

I want to repeat, gentlemen, with reference to this report for the benefit of those of you who are not acquainted with the attorneys employed to re-draft this bill, or rather pass upon the legal points, that they are men of unquestioned ability. Judge Cray occupied the judge's bench in the

district court for a term of years and resigned for reasons best known to himself. The other attorneys, Mr. Taylor and Mr. Schmitt, are recognized able attorneys. This bill was presented to them by the Committee with the request that they look into the legal points relative to the bill. They were not asked to draft a bill; they were asked not to draft a bill. They were informed that they were expected to look into the legal phases and make it a legal document, so that if it passed the legislature in this form it would also stand in the courts. These gentlemen are proud of their profession, and they are gentlemen who would very much dislike to have any decision made by them not stand in the courts. They corresponded, as set forth in the report, with a number of states where laws have been enacted regulating the practice of medicine and especially where those laws have been tested and a decision rendered in the state courts. Consequently, they put in considerable time. They spent about two months, at odd times, in looking into the legal phase of the bill, and the Committee feels that the bill is one that, being passed, will stand in the courts. I believe I have nothing else to submit at this time.

Dr. Johnson: I would like to inquire if Dr. Andrews can give us a list of the societies that have endorsed the bill.

Dr. Andrews: Yes.

The President: If you would just read the names of the societies. I understood you to say that all had approved.

Dr. Andrews: I said that of those societies who had reported all had adopted it, but that one society made a suggestion as to the change in one word in a certain clause.

Dr. Tomlinson: We want to know the names of the societies.

Dr. Andrews: Wabasha County, Winona County, Nicollet-LeSueur Society, Ottertail and Becker. I think that is all that I have here with me: Blue Earth Society. Other societies have adopted it, but they have not reported to me; they have reported it through delegates. Lyon County has not reported, but I think their delegate is in favor of the bill.

Dr. Beebe: I think a large majority of the counties have taken action, endorsing this bill. It was not thought necessary to report to the chairman of the committee at all.

Dr. Andrews: I move the adoption of this bill revising the law of Minnesota regulating the practice of medicine.

Dr. Cobb: I second the motion.

The President: You have heard the motion. Are there any remarks?

Dr. Geer: I should like to ask Dr. Andrews about the one word which was to be changed in the bill.

Dr. Andrews: That request was from the

Wabasha County Medical Society. On the second page, near the top of the page, you will find this clause: "All answers concerning the treatment peculiar to any school of medicine shall be examined, and their sufficiency passed upon, by the members of the board belonging to that school, and their recommendations thereon shall be final. The board may refuse to grant a license to, or revoke the license of, any person"—There is a suggestion that the word "or" be stricken out and the word "may" inserted; "and may revoke," instead of "or revoke."

Dr. Cobb: That is understood.

Dr. Haldor Sneve: I would like to move an amendment to this motion, in that we adopt the bill as presented by the Committee and urge it upon the legislature to make it a law.

Dr. Andrews: I accept the amendment.

Dr. Christian Johnson: The law now under consideration was up for discussion quite extensively the last session of the House of Delegates, and it was referred to the county societies. It was brought up before our society and quite extensively threshed out. There is one feature of this bill which was brought to our attention at our meeting and that is, viz., the question of its influence on reciprocity. That question was discussed at the last meeting of the House of Delegates, and it is a question of considerable importance to the physicians at large; in fact, this question of reciprocity is one of the stumbling-blocks of the medical profession today. There is no reason why a man who has qualified in his own state, who has complied with all the laws, and practiced in his profession honorably for years, should not go into another state and practice his profession there. (Applause.)

That is the way the lawyers do. If a man has once complied with the requirements of his profession he is admitted to another state to practice. That is the way with school teachers and professors in schools; when they have once qualified and pursued their profession creditably, they are recognized in other states. The great desideratum before the medical profession today is reciprocity. This question was taken up by the American Medical Association this year, and the committee that reported on medical education recommended the state associations to take the same action in regard to the unification of requirements preliminary to entering the profession so as to promote reciprocity. I will read here what the committee of the American Medical Association recommended, which was adopted by the A. M. A. at Atlanta in 1909:

"The Committee also recommends that state boards of medical examiners endeavor to make the examinations uniform regarding preliminary and professional training, believing that uniformity in examination will tend to bring about the solution of the problem of reciprocity and remove one of the most serious objections to the present board examinations."

My point is this, that the bill that is reported here has an important bearing on this question of reciprocity. This was gone into thoroughly a year ago in the House of Delegates, and we took it up in our society and discussed it quite thoroughly. Our society instructed me to come down here and in the best way I could present the subject to you as they look at it.

One of the requirements of the bill that has been read here and which is now under discussion is this, that "beginning in June, 1912, all applicants for the examination for license to practice medicine and surgery in the state, graduating in that or a subsequent year, must have satisfied all the entrance requirements and completed the first two years' work of the college of science, literature and arts of the University of Minnesota, or present credits for a course elsewhere which is ruled by the said college of science, literature and arts, as equivalent thereto."

Now, although this question was submitted to the profession one year ago to discuss, I find that the State Board of Medical Examiners have already ruled to that effect, that after 1912, two years' work in the college of science literature and arts, which is passed upon by the University of Minnesota, shall be required before a man can take an examination in this state.

Now, it appeared to us out there, I want to be very candid with you, gentlemen; I want to state just exactly the way it appeared to us—it appeared to us that this was throwing an obstacle in the way of reciprocity. The American Medical Association recommends to the state medical examiners that they endeavor to secure uniformity in requirements. Of course, when uniformity is secured, we shall have reciprocity. As a matter of fact, the American Medical Association is trying to line up the different states; to have them march together. You know what the drill sergeant does: some one in the line is slow and cannot be kept up, and the sergeant must stir him up and push him on; and some great, big, long six-footer is stepping away out in front of the rank. The duty of the sergeant is to push on the fellow that is lagging behind, so as to get them all together and work in uniformity and march according to commands. This is what the American Medical Association is trying to do now, but it seems that this great, lusty state of Minnesota is stepping ahead of the profession, as a matter of fact. Of course, it is a grand thing to have state pride, and we have state pride, but there is such a thing as carrying these things a little too far. We have a grand lot of men here in Minnesota; we all know that, but then, they have in other states; they have them in Iowa, in Illinois, in Michigan, in Pennsylvania, in Ohio, in Mississippi. Now, we believe that the state of Minnesota should march along with the boys, but not too far ahead.



There is only one other state in the Union that requires a two years' course in a college of science, literature and arts, and that is the state of North Dakota. North Dakota is an over-grown boy. North Dakota is in a formative stage. We want to march along with the boys, and we want to see the day when any of us here can go into any other state and practice our profession, provided our character is good and provided we have done well, and that time cannot come unless we can get the whole Union to march together. Not the whole Union, perhaps, because we all understand that the South is not up in this matter, but I mean the great North, East and West, that are marching ahead and side by side in all civic enterprises. It doesn't look well for Minnesota to jump out and say, "I can do you fellows up." We cannot "do up" a state like New York, my friends. We may think we can, but we can't. The American Medical Association has laid down an ideal plan. An *ideal* plan, mind you. And, by the way, not alone in this country; it is the ideal plan all over the world. There is not a country in the whole world that requires two years of college work before students enter into medicine. The country that requires the most of its graduates is Sweden, and all they require is one year in science. In Germany it is just the same. After you have taken your year in the gymnasium, which a boy can take until he is eighteen, then you have one year in science, four years in medicine, and a year in the hospital. There is no country except Greece—and we don't consider Greece exactly as a civilized country—that requires more than this. Consequently, these men, the Council of the A. M. A., have laid down this ideal plan; and it is a plan that will suit the average. The drill sergeant when he starts out to drill his squad does not set his rule by the great six-footer; he lays it by the average man.

If we are going to have any reciprocity in this country, any uniformity between the states, we have got to get down to a plan that is practicable. We came to the conclusion out in the country,—of course, we are backwoods men; you understand we don't know very much, but we think we do,—we have an idea that out in the country we have something to say about this matter. That is an American idea, you know, that everybody has something to say, has a right to say something. Although we have great respect for the men in the cities, yet at the same time when you come to legislate for the practitioner of the state, we think we have something to say about the matter. We believe out in our little society,—and I believe there are other societies that believe the same thing,—if you were going to hunt up the rank and file of Minnesota, you would find a large majority of the physicians of Minnesota want that ideal plan. We want to be with

the rest of the states, not have our state step out and show off its pranks.

And so that is the clause I am sent down here to offer an amendment to. I am going to offer an amendment to the proposal of two years' work, that we go on the A. M. A. ideal plan and require only one year's work in science after the high school course.

There is another thing, of course, that we in the country understand perfectly well, that our friends who live in the city are interested in the University, and we are glad we have it, but of course the University, after all, is not the whole thing. It is located down in the Twin Cities, and, of course, they like to have our boys down there as long as they can. But we have gone to work all over this state and built up the high schools. We are taxed to pay for first-class high schools. We have high schools that will compete with any in the world. Our boys finish their course when they are eighteen years old. Then they get that year of science, which we admit is all right. I am down here to tell you that this is our idea of this question, and I shall offer an amendment when the proper time comes to insert in the clause referring to the preliminary requirements, one year's work in chemistry, physics, and biology; or, if that isn't the way to dispose of it, I shall offer a resolution instructing the State Board of Medical Examiners to modify their requirements in accordance with this idea. (Applause.)

The President: We will now listen to a communication from the Sanitary Conference.

Dr. John Elford Soper, representing the Sanitary Conference, then in session at Winona, read the following communication:

October 12, 1909.

We, the committee appointed by the State Sanitary Conference, in session at Winona, Oct. 12, 1909, have been requested to appear before you, the House of Delegates of the Minnesota State Medical Association, in regard to the "co-operation between the State Medical Association and the Board of Health throughout the State, in the matters pertaining to medical legislation."

We believe that there should be a perfect co-operation between the State Society and the State Board of Health and all other boards of health.

Quoting from Dr. F. R. Green: In the first place the State Association ought to see to it that its influence is used just as strongly as possible to secure the appointment of competent and efficient men on the State Board of Health, and on all boards of health. The State Association should also see to it that sufficient appropriations are made for the use of the board. This can be secured in practically no other way than by public education on health matters, since the average legislator and citizen considers that appropriations for health purposes is money thrown away. If the State Association and its component boards, can keep before the public the wastefulness of sickness and of a high death-rate and the economy of good health, and can show that money appropriated for health purposes is one of the best investments that can be made of public funds, it will go far towards securing for the



State Board the support that it needs.

For this work we ought to have a regular educational bureau or publicity department for each state society, which would have branches in every county, and would be in close touch with all the newspapers of the larger towns and cities. Through this medium, material supplied by the State Board of Health could readily be placed before the people, and so far as actual legislation is concerned there should be the fullest understanding between the State Board of Health and the State Association.

We suggest that a joint committee composed of the following members, if meeting with your approval, be appointed: President and Secretary of the State Medical Association and the President and Secretary of the State Board of Health and the Committee on Legislation of your body. This joint committee of seven should have the general supervision of legislation regarding health matters and publicity of the same.

We also request that the House of Delegates join with the State Sanitary Conference in endorsing the resolution of the Minnesota State Board of Health requiring the compulsory notification of tuberculosis in all its forms.

Respectfully submitted,  
(Signed) JOHN ELFORD SOPER,  
A. C. LIEDLOFF,  
C. W. MORE.

The President: You have heard the communication. What is your pleasure?

The Secretary: I move that we receive the communication and act upon it at our next session.

The motion was seconded by Dr. Geer, and upon being put to vote prevailed unanimously.

Dr. Andrews: In answer to Dr. Johnson: I agree with him that we want to march with the procession, but, gentlemen, we have led the procession in the past, and we want to lead in the future, so far as medical legislation is concerned. We have had an excellent law in the state of Minnesota in the past, but as that is several years old it needs revision, and this bill is the proposed revision. If Dr. Johnson had carefully looked at the latter part of this bill he would have noticed this:

Provided that the Board may grant a license, without examination, to any person who holds a license to practice medicine from a state whose requirements for license are, in the opinion of the Board, equivalent to the requirements in this state; and the fee for the issuance of such license shall be twenty-five dollars.

This state does not throw down the practice so far as reciprocity is concerned and admit physicians into practice from states whose requirements are far below Minnesota. The bill provides against that, but the bill does permit the Board of Examiners to admit any physician from any other state in the Union who is entitled to practice in that state, provided the requirements of that state are equal to those of the state of Minnesota. As to lowering the standard of education in the state of Minnesota, this body does not want to subscribe to anything of that kind.

Dr. Johnson: I shall not take very much more

time in discussing this matter. I have come down here, as I say, under the instruction of our society, and I have tried to point out our view of the matter. I think what Dr. Andrews read verifies every word I have said. There is no state in the Union today that requires two years except North Dakota, and they will not in future stand well with the American Medical Association. They have overlooked the ideal plan. And to think that Minnesota can sway all the other states is rather presumptuous, to my mind. We are not lowering the standard. There is not a man in any European country who could come in and take an examination in this state under that bill. That is ridiculous. You all know what the requirements in Germany are. We can lead as long as our ground is solid. We have led in Minnesota to a certain extent. I remember twenty-five or twenty-six years ago I took the first medical examination that was ever held in the state of Minnesota, before old Dr. Hand and Dr. Hewitt, from Red Wing, and Dr. P. H. Millard. That examination was all right at that time, but advances have been made since then. And now we come to a point where we must march with the others. We are positively certain that this bill is impracticable if we want any reciprocity. If we pass that bill, Minnesota will stand by herself after 1912. We don't think that we want that. If North Dakota wants to fence up their little corner up there, that is all right. As I say, she is only a youngster, not yet out of her baby clothes. If North Dakota does not want to have any reciprocity, if they want to say, "We are better than you other fellows, we can go it alone," we have no objection, but we believe that Minnesota ought to be reasonable about the matter of advancement. It really isn't good behavior for Minnesota to jump ahead of what the best men in the profession have laid down as ideal. The question is, are we good, loyal members of the A. M. A? Don't we send our delegates there? Can't we abide by their decisions? We do not believe it is good policy, or good manners, to do this. We want to keep Minnesota right along in step with the other fellows, like a good soldier. You know that a good soldier doesn't try to show off very much. You know that a good soldier is the good fellow that walks along in line, and if everything is not exactly as he wants it, he puts up with it. He is the man that will last. Consequently, we want to do the right thing in this matter, like a good soldier. We don't want to jump ahead, to show ourselves smart. If we have a reasonably good thing we ought to be satisfied. We stand on the A. M. A. platform. We are members of the Association here in Minnesota, of course, but we are also members of the A. M. A., and we believe that the national council should guide in this matter. Go down

and convince those men that we require two years here, and then, gentlemen, I will say adopt this bill, but until you can convince the men who gather in the national council, it is not good form for us to do it here. And I come in behalf of my society to protest against it and offer an amendment to correct the great mistake in the bill.

Dr. F. A. Knights: I did a little drilling in a military company once. Before that I had always had an idea that there would be no fault found if men got a little ahead of the line. (Applause.)

The Hennepin County Society instructed its delegates to advocate the postponement of action upon this amendment, partly for the reason that there is almost certain to be considerable medical commotion in the next legislature. That is to say, the action of the Board of Regents in abolishing the Homeopathic department of the University has, of course, excited considerable opposition amongst our Homeopathic brethren, and they are practically certain to apply to the next legislature for relief and for the reinstallation of the Homeopathic department. Such being the case, it seems to us an extremely unfortunate time for us to try to secure medical legislation of any sort. We probably cannot postpone the action of the Homeopathic society. If we try to introduce a bill, the impression that will certainly go out will be that the profession, which thus far controls and is represented in the state medical law,—that is, the two schools,—are hostile and that there is a row in the profession, and the impression in the legislature will be extremely bad. We have had some experience with the state legislature before, when there was no such condition of things, and we could not get legislation. We would have an immense fight to get a bill of this kind through the legislature when there was no Homeopathic opposition and no antagonistic suggestion presented before the legislators. This bill contains a lot of matter relative to the definition of the practice of medicine, which is very often a matter that will provoke opposition, about which we have not heard anything here, and unless you are familiar with the opposition that has occurred in the legislature before, you have no idea how much opposition this definition of the practice of medicine will produce.

There are a few matters provided for in this bill that seem to us perhaps not exactly desirable. The first one I notice is the return of half of the fee for examination in case the applicant is not successful. That is a comparatively small matter,—a matter of five dollars,—but the labor of examining a man who is rejected is considerably more than that of examining the man who passes a good examination. There is no question about

that, and it hardly seems fair that the fee should be returned under the circumstances. Still, that is a matter that nobody ought to object to very much.

The question of the requirements is a matter for the judgment of this House. As Dr. Johnson said, the Board has already ruled to that effect, which, by the way, was in force with the Board long before this matter came into the State Association.

The definition of the practice of medicine seems to us to be the strong point of this bill, and an almost exactly similar definition was attempted at the session of the legislature before the last. To be sure, that was not backed to any very great extent by the profession. Dr. Gates, who had the matter in charge, reported that it was absolutely useless to attempt to push the matter through; that it excited so much opposition from every sort of irregular practitioner that the pressure against it was entirely too great.

The other important clause in this amendment is the one making the state examining board, a prosecuting body, and providing that it shall prosecute upon the complaint of two reputable citizens. So far as my membership in the Board goes, that cuts no figure, and it is only from having seen the thing from the inside that I feel at all competent to speak upon the matter, but the amount of labor that this thing will throw upon the State Board seems to be so great I doubt very much whether nine men can be found in this association who will accept the labor that is thrown upon them. I should like to read that clause.

It shall be the duty of the Board to prosecute any one violating any of the provisions of this subdivision, provided complaint shall have been made in writing, signed by two reputable citizens residing in the county where such violation shall have occurred, and in conducting such prosecution the Board is authorized to call upon the county attorney of the proper county or to employ such other attorney or attorneys as it shall deem proper.

That provides that when any two reputable citizens—and the definition of reputable citizen is not very rigid—have made complaint in any part of this state, the State Examining Board shall forthwith investigate the matter, shall collect the evidence, and conduct the prosecution. Just think for a few minutes what an immense load of work that makes. You may be able to find nine men in this association who are willing to take up that work. I doubt if you have any men who have any business of their own to do who will take it up, and if they have they simply cannot do that work, no matter how well they are remunerated for it.

The bill goes on further to cut in two the reciprocity feature and thereby decreases more than a third the revenue of the Board, so that



you not only multiply by ten the probable labor of the Board, but you cut in two the reward. That hardly seems to be a rational proceeding. The Board with the revenue that it has at present could not prosecute these cases. That is to say, if it were obliged to prosecute on the complaint of any two citizens in any county in the state. It would be simply an absolute impossibility to do so.

The reciprocity fee, if this matter goes through, should be raised to one hundred dollars. A physician who comes to this state from outside will pay one hundred dollars just as well as he will pay fifty. It will be absolutely necessary to have that money if you are going to do anything in the way of prosecution. The raising of fees for examination is a very different thing, but it absolutely cuts the bottom out of this thing if you cut that fee down to twenty-five dollars.

Dr. Cobb: I would like to inquire if this fee of twenty-five dollars and the ten dollars for examination are used to pay running expenses or put into their pocket. The doctor claimed that this fee ought to be raised from fifty to one hundred dollars. What I wish to inquire is if this fifty dollars you have been receiving from applicants from other states and the money received for examining fee is your fee or is to be used for the expenses of the board.

Dr. Knights: The law provides that that is for the use of the Board. The Board remunerates itself for the examination of papers and per diem and traveling expenses. The rest is used for the expense of the office, secretary's salary, stenographer, and the money that has been spent in litigation.

Dr. Beebe: I would simply like to ask the member representing Hennepin County, who has said he was requested to suggest the postponement of action on this bill, whether the objections were made by Hennepin County or Dr. Knights.

Dr. Knights: By Hennepin County.

Dr. Andrews: It is proper for me as chairman of the Committee to defend this action. In regard to the Board being compelled to prosecute when complaints are made—where shall that authority rest? It must rest somewhere, and it seemed best to the Committee that it rest with the Board. As a matter of fact, you all know that these cases are very few and far between, and you know fully as well that in the past there has been nobody to report to. The Board has not been in position to do much. It perhaps has not had sufficient means. Means will be provided for prosecutions that are necessary. It seemed best to the Committee that this rest somewhere and with somebody and that the Board was the better place.

As to these other objections made: they are

minor objections. They can easily be changed. This body is not enacting this bill into a law. It will have to go before the legislature. If some of those things need modification, they can be modified. As to the return of five dollars to the applicant who is unfortunate or fails: if this body thought best not to incorporate that, let him pay the whole ten dollars. If this body think best to ask one hundred dollars for reciprocity, there is no great objection to that, but the desire of the committee was to make it as easy as possible for reputable physicians from other states to come into our own state and practice.

One other thing, and I will sit down. It would be a very great mistake to postpone the adoption of this bill for another year. These objections are minor objections. The bill was threshed over last year and the recommendations taken into account by the Committee. You very well know that as long as the pale-faced moon gives forth her borrowed light that a body of this kind could never absolutely agree upon a bill, and if it were postponed a year and came up, revised again before this body, there would be this same criticism. The Committee knowing that has taken special pains in the drafting of this bill and has employed three as competent attorneys as there are in the state of Minnesota. A year from about this time our legislature will be elected, and before that next legislature this bill ought to come, and it was the thought of the Committee, and especially of Dr. William Davis, of St. Paul, who, I am sorry, is not here at this time, that this should finally be disposed of by the House of Delegates and then preparation be made by the medical profession of Minnesota to go before those who are candidates, or wish to be candidates, for the next legislature, and get promises from them, for it has been your experience—every one who has had any experience in politics—that after a man is elected he appears to forget all the promises he made. This bill ought to be adopted by the House of Delegates at this time, and then this House of Delegates should inaugurate a plan for a thorough canvass before the legislators are elected, and carry it into the legislature and we will get the kind of a bill that we want.

Dr. J. Clark Stewart: Dr. Knights in speaking for the Hennepin County Society omitted one reason why postponement was urged, and that was very much the essence of what Dr. Johnson gave us, that the American Medical Association is attempting to establish uniform legislation in the large states, and the Hennepin County Society advised that this adoption be postponed until the American Medical Association had acted, and for that reason I move you the postponement of the adoption of this report until



after the next meeting of the American Medical Association.

Dr. Courtney: I for one feel proud of Minnesota. I feel proud to think that she is advancing the standard of education, not only in a medical line, but in other lines. If the American Medical Association is going to establish a standard there must be something by which she will have to compare, and let Minnesota be the standard of comparison. Let us have our six-year term or our two-year academic, and let the American Medical Association establish her standard from that, if she wishes; if not, I think we can get along as we are doing. I think we are a noble profession, and I for one have never been overburdened with all that I knew. I think the six years would not have been too much for me. I do not think that we would be doing New York or any other state any injustice if we refused to accept their standard of license, if they have not the same standard of education that we have, but I think they would do us a very great injustice to refuse our men permission to practice if we have a standard so much higher than theirs, and I think they would not only be doing themselves an injustice, but they would be doing the laity an injustice to refuse them the benefit of our experience and our education.

Dr. Knights: It is all very well to say that the legislature can modify this bill, but we do not want to present that kind of a bill to the legislature. We want to know what we want. If we go before them and say, "Fix this thing up to suit yourselves and then pass it," they will modify it so that you will not know it. We do not care to bring a bill of that kind before the legislature. I do not believe that Dr. Andrews has calculated the opposition that is coming to this bill from the handicap arising out of the Homeopathic situation. If this bill comes before the next legislature it will be defeated absolutely, and we would not dare to show our heads for at least six years afterwards.

The President: Dr. Bracken of the State Board of Health wishes to say a few words to the House.

Dr. Bracken: I simply want to say that the State Sanitary Commission, which is in session at this time, planned to meet just preceding the meeting of the State Medical Association, in order that we might get a good attendance, if possible. This Commission will have an evening session and would be very glad to have the members of the House of Delegates attend that session. It is open to everybody who is interested in sanitary work. (Applause.)

Dr. Johnson: I do not wish to take up your time, but I wish to say that I am sincerely sorry for Dr. Andrews. I appreciate the labor he has

put on this bill, but we do not want it. The country does not want it. It will be snowed under here or elsewhere. I want to say again that we cannot be disloyal to the A. M. A.; if we are, we cannot do business.

The President: The motion is before the House, that action on this report be postponed until after the next meeting of the American Medical Association.

The motion, on being put to vote, prevailed.

The President: We will now listen to the report of the Committee on Public Policy and Legislation, of which Dr. Beebe is the chairman.

#### REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

DR. W. L. BEEBE

To the Members of the House of Delegates of the Minnesota State Medical Association:

Your Committee on Public Policy and Legislation begs leave herewith to submit its report very briefly:

The most important bill having any bearing on matters medical that our last legislature enacted was the one prohibiting advertising in any form containing suggestive or immoral terms. The passage of this bill, though very bitterly fought by our irregular brethren, was really a body blow to and very effectual in its results against their interests.

Another very good bill passed was one regulating the sanitary condition of workshops and factories.

A bill providing a board of examiners for the so-called "Naturopaths," was defeated. This bill was most vigorously advocated by its adherents and was the one that caused our medical friends in the legislature the greatest concern.

In a paper before the State Sanitary Conference in this city on the 12th inst., on the subject of Co-operation Between the State Medical Association and the Boards of Health throughout the State in Matters Pertaining to Legislation," your chairman suggested that our Committee on Legislation and Public Policy, consisting, as you know, of three members, together with the President and Secretary, invite the President and Secretary of the State Board of Health to assist in the preparation of all matters or programs bearing upon legislative action; in other words, to have a joint committee on legislation from both organizations.

On motion, duly seconded, the report was received, ordered placed on file, and the recommendations adopted.

Dr. Andrews: I move that the President and Secretary of the House of Delegates be authorized to sign any vouchers presented by the Councilors for expenses. The object of this motion is that those bills have not been allowed. Our Councilors have not been paid their bills for two years past, because no one has thought he had authority to sign the vouchers.

The motion of Dr. Andrews was seconded and, on being put to vote, prevailed unanimously.

On motion of Dr. Geer, seconded by Dr. Andrews, the House of Delegates adjourned until nine o'clock, Thursday morning, October 14 1909.

## SECOND SESSION, WEDNESDAY AFTER- NOON, OCTOBER 13, 1909

Pursuant to the following petition, the President called a special meeting of the House of Delegates at 4:30 P. M. Wednesday, October 13, 1909:

To the President of the Minnesota State Medical Association: You are hereby requested to call a special meeting of the House of Delegates of said Association for 4:30 P. M., Oct. 13, 1909, for the transaction of such business as may come before it.

W. F. Wilson	A. E. Spalding
W. D. Broderick	L. A. Nippert
W. J. Awty	H. A. Tomlinson
N. L. Linneman	H. M. Workman
J. W. George	J. G. Millspangh
J. W. Bell	F. J. Savage
F. A. Knights	J. L. Rothrock
O. F. Fischer	C. P. Robbins
H. E. Conley	W. L. Beebe
W. J. McCarty	Walter Courtney
A. B. Stewart	F. A. Dodge

The Secretary then called the roll.

The Secretary: The reason for the calling of this meeting, gentlemen, is the fact that we will have to make a change in our by-laws to make this new medico-legal fund absolutely legal, and we could not make a change in the by-laws without giving the day's notice; consequently, we had to call this meeting to give this notice in order to pass the by-law tomorrow at our last meeting. Our legal friends have discovered since this bill was put before our Association that a recent decision of the supreme court has made it absolutely essential that the medico-legal fund of any Association of this kind does not contain anything in reference to a certain fund being set aside for that express purpose; that invalidates the whole thing. Consequently, we will have to strike out that portion of our by-laws setting aside one dollar for a defense fund and increase our dues to three dollars and then use one dollar for that purpose, which we can do, as they say, legally. In other words, it is a legal quibble, a whipping of the devil around the stump. I offer the following resolution:

That Section 15 of Chapter IX be amended to read as follows:

That the per capita dues of the members of the component societies be fixed at three dollars per annum.

Also, Resolved:

That the by-laws be and are amended by the addition of a section to Chapter IX, as follows:

Section 15. The annual assessment shall be and is hereby fixed at three dollars per capita per annum, which shall be paid and forwarded as hereinbefore provided.

Also, Resolved:

That Chapter XI of the by-laws, as adopted October 12, 1909, be amended by striking from Section 2 thereof, the following:

They shall have charge of the defense fund, which fund shall be secured as follows: every member of the state society shall be assessed \$1.00 for the first year and not to exceed \$1.00 per year thereafter, for this fund alone. This fund shall be paid along with other dues and through the same channels. It shall be kept separate from other moneys of the society, and may be invested by the treasurer under the direction of the council and shall be used only for the legal expenses of members threatened with or prosecuted for alleged malpractice.

And by striking from Section 3 thereof the following:

"A statement of the condition of the defense fund together with"

In other words, Section 3 will read as follows: "The Council shall make an annual report to the House of Delegates at the annual meeting for the year previous ending March 31st. This report shall contain," and then follows what is to be stricken out: "a statement of the condition of the defense fund together with"—that clause is to be stricken out and the balance of the section will read: "This report shall contain an enumeration of all suits or threatened suits for malpractice against members of the Minnesota State Medical Association which have been properly presented to them for action."

Those amendments will be presented tomorrow for your consideration.

Dr. A. T. Mann: I wish to give notice of a change in the constitution, which has to be presented now to be acted upon next year, and before I read this I wish to state that it is in reference to the admission of the men who presented such good work to us this morning to full membership in this Society in order that they may be eligible to read papers on the platform of the American Medical Association. Otherwise they cannot present the excellent material which we have had presented here except by request.

The change in the constitution is to read as follows:

That graduates in medicine, in good standing before the profession, and occupying positions of teaching and research, in the employ of the state, be admitted to full membership in the Minnesota State Medical Association without license by the State Board of Examiners.

Upon motion of Dr. Geer, seconded by Dr. Bell, the House of Delegates adjourned until 9 A. M. Thursday morning, October 14, 1909.

## THIRD SESSION, THURSDAY MORN- ING, OCTOBER 14, 1909

Pursuant to adjournment, the House of Delegates was called to order by the President at 9 A. M.

The minutes of the previous session and of the special session were read and approved.

The President: The election of officers is the next order of business. The chair is ready to listen to nominations.

Dr. Knights: I am not going to make a nominating speech. You know more about this man now than I could tell you. I nominate Dr. W. A. Jones, of Minneapolis, for the office of President.

Dr. Workman seconded the nomination, and on motion of Dr. Tomlinson the Secretary was instructed to cast the ballot of the House for Dr. Jones.

Dr. H. E. Conley then presented the name of F. W. Dimmitt, of Red Wing, for First Vice-President. The nomination was seconded by Dr. Bell, and on motion of Dr. Tomlinson the Secretary cast the ballot of the House for Dr. Dimmitt.

Dr. Burnside Foster placed in nomination, and on motion the Secretary was instructed to cast the ballot of the House, for Dr. Hugh F. McGaughey, of Winona, for Second Vice-President.

Dr. N. L. Linneman presented the name of Dr. C. W. Bray, of Biwabik, and on motion of Dr. Geer the Secretary was instructed to cast the ballot of the House for Dr. Bray as Third Vice-President.

The President: The next nomination is that for Secretary.

Dr. Tomlinson: It seems that the present Secretary has got things in such confusion that it would be impossible for anybody else to get them out, so that we will have to continue him in office.

The President: Is that the only resource?

Dr. Tomlinson: Yes, and I therefore nominate Dr. Thos. J. McDavitt for the office of Secretary.

Dr. Geer: I second the nomination and move that the Chairman of the Committee on Credentials cast the ballot of the House for Dr. McDavitt as Secretary.

The President: Will Dr. Beebe carry out the instructions of the House?

Dr. Beebe: It is a very painful duty, but I will do it under compulsion.

Dr. Workman then presented the name of Dr. R. J. Hill, of Minneapolis, as Treasurer, to succeed himself.

Dr. Geer seconded the nomination, and on motion of Dr. Tomlinson, the Secretary was instructed to cast the ballot of the House for Dr. Hill.

The President: Gentlemen, this looks like a cut and dried thing to me.

The Secretary: There are three Councilors whose terms expire: E. A. Hensel, of Alexandria; F. A. Knights, of Minneapolis; F. A. Dodge, of LeSueur. Each Councilor will be elected for a term of three years, according to the constitution.

The following Councilors were then chosen to succeed themselves:

First District: E. A. Hensel, Alexandria.

Fourth District: F. A. Knights, Minneapolis.

Seventh District: F. A. Dodge, LeSueur.

The Secretary: It is necessary to elect a delegate to the House of Delegates of the American Medical Association for two years and an alternate for two years. We are entitled to two delegates. Dr. Arthur Sweeney was elected at the last meeting for two years, and he has one more year to serve.

On motion of Dr. Linneman, seconded by the Secretary, Dr. Charles F. McComb, whose term as alternate had expired, was chosen delegate to the American Medical Association for two years.

On motion of Dr. Tomlinson, seconded by Dr. Geer, Dr. R. C. Dugan, of Eyota, was chosen as alternate for two years.

The President: Is there further business?

The Secretary: No other elections.

The President: I will appoint as committee to find Dr. Jones and conduct him to the chair Doctors Knights, Tomlinson, and Millspaugh.

Dr. Tomlinson: I am afraid, Mr. President, that we cannot find him.

Dr. Knights: Does the House wish to pay our expenses to Minneapolis and return?

Dr. Tomlinson: He was called back last night.

The President: That is a very serious complication.

Dr. Geer: I would suggest that the acting president continue. He need not feel bad about it at all.

The Secretary: We have got to act upon the amendment that was proposed yesterday. As you will remember, gentlemen, we passed our Medico-Legal bill and it was discovered that to render it legal we had to repeal a part of it. In other words, the lawyers suddenly discovered that the State Medical Association could not become an insurance company, and it was necessary to cut out everything that tended to show that any portion of the funds of the Association were used for that purpose. That was fully explained yesterday.

The President: I do not think you need read that amendment again. We have heard the reading of this amendment and understood why it was necessary that it should be ratified.

Dr. Foster: Do I understand that we have legal opinion which states that we are perfectly safe now to go on with this matter?

The President: Yes.

On motion of Dr. Geer, seconded by Dr. Bell, the amendment as proposed at the special session, October 13th, was adopted.

The Secretary: Dr. J. W. Andrews, Chair-



man of the Committee on change in medical law, reports as follows:

Winona, Minn., October 12, 1909.

In account with the Minnesota State Medical Association.

It will be remembered that at the Duluth Meeting the sum of \$200.00 was appropriated as expense money for the especial legislative committee. The following is an itemized statement of the expenditures:

Assets, \$200.00.

Disbursements—

June 17, 1908, to J. W. Andrews.....	\$ 3.72
July 14, 1909, Printing.....	7.00
Feb. 4, 1909, J. W. Andrews.....	5.35
Feb. 4, 1909, Hotel Ryan.....	10.50
May 7, 1909, Hotel Ryan.....	10.50
July 14, 1909, J. W. Andrews.....	.99
July 14, 1909, Free Press Printing Co.....	4.00
Sept. 2, 1909, Benj. Taylor and others.....	105.61

Total, .....\$144.68

Balance .....\$55.32

A balance of \$55.32 to turn back into the treasury.

Respectfully submitted,

J. W. ANDREWS,  
Chairman Committee.

On motion of Dr. Geer, the report of Dr. Andrews was received and ordered placed on file.

The Secretary: It is also necessary to act upon the resolution that was presented here by the Committee from the Sanitary Conference, as read by Dr. Soper.

The President: Some did not hear the resolution. Please read it.

The Secretary then read the communication from the State Sanitary Conference presented by Dr. Soper at the session of October 12.

On motion of Dr. Geer, seconded by Dr. Bell, it was declared the sense of the House that the recommendations contained in the communication be concurred in.

The Secretary: After the symposium yesterday, the general scientific session sent the following resolution to the House of Delegates for their action:

Resolved, That this body unanimously recommends to its House of Delegates that they, at this session, take such action as will bring about the co-operation of state forces suggested in the symposium of this afternoon.

Passed unanimously at the General Session of the Minnesota State Medical Association, Wednesday, Oct. 13, 1909.

On motion of Dr. Geer, seconded by Dr. Tomlinson, the resolution was unanimously adopted.

The President: I have the great pleasure of introducing to you Dr. F. R. Green, Assistant General Secretary of the American Medical Association.

Dr. Green: Mr. President and Gentlemen: I was not anticipating being called on at this time, and, really, after witnessing the exciting and closely contested election that has just been held I am hardly in condition to collect myself sufficiently to make any very illuminating remarks.

It is a great pleasure for me to be here. I al-

ways anticipate with a great deal of pleasure attending the Minnesota state meeting. I am very glad to bring you greeting from the American Medical Association, as well as personal greeting and personal good-will from the General Secretary, Dr. Simmons. I am very much interested in the reports of the meeting and I am sorry I was not able to hear the symposium on co-operation of the state society, and I am sure that the movement that has been started in Minnesota for co-operation between the State Board and the State Association will be productive of a great deal of good.

I thank you very much for the privilege of being present.

Dr. Knights: Since Dr. Green probably cannot be with us next year, I want to ask if he will not make us a few remarks about the amendment to the constitution proposed by Dr. Mann yesterday concerning the admission of certain men in the state who are not licensed to practice medicine. In discussing the matter it has been mentioned that in admitting these men we would be in conflict with the ideas of the A. M. A. and that there were difficulties in the way that do not seem to me to exist. I would be very glad if Dr. Green would say a few words about that.

Dr. Green: I will very gladly throw any light on that subject that I can, notwithstanding that I am speaking on my own authority. I understand that there is some discussion on that point, and, consequently, anything that I may say will simply be in the way of suggestion.

The only provision there is in the A. M. A. regarding membership is whether the applicant is or is not a member in good standing in the county and state society. We never go back of that. If a man is reported in good standing in the county and state societies, his application is accepted without question, or if he is a member he is continued without question. If he is not reported as a member in good standing, then his application is held up until such time as he becomes so. The only qualification, the only essential, is membership in good standing in the state society. This is necessarily so, as you will readily see, on account of the fact that the American Medical Association simply consists of the combined membership of the state societies, and that it is manifestly impossible for a central office, such as the headquarters office of the Association, to pass on individual qualifications, in fifty-two constituent state and territorial societies, in something like twenty-two hundred county societies, involving seventy thousand members scattered all over the United States. Consequently, the jurisdiction is left entirely in the hands of the county society, and the only question that comes up is whether the individual applicant or member has complied with the re-

quirements for membership in the state society, and that, of course, involves the fact that he has complied with the requirements for membership in the county society. Consequently, the matter comes down to the decision of the state society on this point, and that, of course, is simply a matter of expediency and judgment, determined by the medical conditions as they present themselves to the state society.

I do not recall that data on that specific point, as far as the provisions of the constitution of the state societies are concerned, have ever been compiled. Speaking simply from general knowledge, I would say that probably more of the state societies had provisions limiting membership simply to physicians in good standing than to the legal qualifications. That is simply a question of statistics, on which I could not attempt to speak positively without looking up the matter, but that is my impression.

The most important point in that respect is as it applies to men who are physicians in good standing as far as their personal standing is concerned, but who are not engaged in the active practice of medicine and who in many cases are not licensed by the state board of health; that is, physicians who hold official positions or teaching positions in colleges.

Speaking of state associations, I am most familiar personally, with the details of the Illinois State Medical Society. We require license in connection with the University of Chicago and the medical department of the Northwestern University. There are a considerable number of men of very high grade who hold positions of teaching or are on some boards where they are not in general practice at all, and who have never gone to the trouble or seen fit to appear before the state board and take an examination, as they do not intend to practice. We have a considerable number of men in Chicago who are members in good standing and who are very valuable members of the medical society and of the state society, who are not licensed. That is true in a number of states. The question as to the advisability of requiring a license simply as a formality in order to support the medical-practice act is, of course, one for the state association to settle, and that would depend upon the medical conditions and on whether in the judgment of the state society such action was necessary to support and endorse the state law. That is a matter of which you gentlemen are more competent to speak than any one else. There is, however, no conflict as far the constitution and by-laws of the American Medical Association are concerned, the matter being left entirely in the hands of each state society.

The President: I think that would be covered by the well-known parliamentary law that bodies

are the judge of the eligibility of their own members.

Dr. Tomlinson: That resolution passed by the Association with regard to the co-operation of the different forces in the state for public health makes no provision for the appointment of a committee, and it seems to me that the House of Delegates should take some action in that connection. I, therefore, move that this matter be referred to the Council with discretionary power to add such other members to a committee as they see fit to carry out this recommendation of the Association as shown in these resolutions.

Dr. Tomlinson's motion prevailed unanimously.

The Secretary: I think it might be illuminating to our Association if Dr. Green would give us some of their experiences in reference to their medico-legal fund. I know that he has had a great deal of experience with the way that fund was operated in the Chicago Medical Society, before it was adopted by the Illinois State Medical Association. I think the House might like to hear how it was operated in Chicago for the past six or seven years.

Dr. Green: I will be glad to give the members of this House any suggestions I can and the benefit of any experience we have had along any of those lines.

Our experience in Chicago along the lines of medical defense has been particularly gratifying, in that the Chicago Medical Society is the only medical organization in the country that I know of,—and I have gone into the question of medical defense by the different state and county societies pretty carefully,—that has extended this privilege to members and that has carried it out, giving complete legal defense and protection to members, without increasing its dues. That is an example that I would not recommend any state society to follow, because I think it was more good luck than anything else that carried us through. I think probably if it was to be done over again, an additional dollar would be added to the dues in order to finance that feature, but it was done, and it has been very successfully carried out, and a great deal of credit is due to the gentlemen who have had charge of it.

The first medical society in the United States that took up the matter of medical defense of its members was the Medical Society of the County of New York, and later on this feature was extended to the entire state society. Very shortly after that, in 1903 or 1904, if I remember correctly, this matter came up in the Chicago Medical Society, and a committee was appointed to formulate plans and take charge of the matter. The dues of the Chicago Medical Society at that time were five dollars, and of this amount one dollar for each member was set aside as a



medical defense fund and that was turned over to the medical defense committee. At that time the membership of the Chicago Medical Society was about twelve hundred; today it is between twenty-two and twenty-three hundred. So that the committee had, to start with, a fund of a little over one thousand dollars. They retained one of the best known and highest grade legal firms in the city as the attorneys of the Society. That firm has looked after the medical defense business of the Chicago Medical Society and later on of the State Society when this feature was extended to the entire state.

The committee assumed the defense of all members against whom suits for malpractice were brought and at first furnished them the legal advice of the attorneys up to the time of going into court. Later on they extended that so as to cover the court costs. There has been no attempt made as yet to assume the payment of any damages that might be found; in the first place, because it was not necessary, because no damages have ever been found against any member of the Society defended by the committee; and, in the second place, because as yet the financial condition of the medical defense committee would not justify it.

The attorneys of the Society first made a business of collecting and tabulating all of the decisions regarding medical defense or malpractice suits that have been brought in the courts of Illinois. You gentlemen are all of you doubtless aware that the law in malpractice suits is largely a matter of judicial decision and not of statutory enactment. The law that governs malpractice rests very largely on decisions of the courts rather than on the statutes. Consequently, the first thing that they did was to collect all of the decisions in regard to malpractice suits. That was a very important matter, because each case and the ruling of the judge would depend very largely on decisions of previous cases. They have since extended that so as to include a very large percentage of all the judicial decisions in other states, so that the attorneys of the State Society now have on hand a large amount of material which the ordinary lawyer who is called on to defend a malpractice case, or defend the physician, does not have.

The first thing that committee found was that the average lawyer was incompetent to adequately defend a physician, because he has one of those cases very rarely. He is not conversant with the law, and very often does not look after the rights of his client as thoroughly as he might if he was better informed. In other words, he is not a specialist in those cases, whereas by retaining one firm of lawyers and having them devote all of their time, they soon become experts and able to give much better service.

I believe the first two years the medical defense committee paid an annual retainer of five hundred dollars to this law firm to act as their attorneys, and then had a definite arrangement with them in regard to the charges for appearance in court. They found that the great majority of malpractice suits that were brought against physicians were brought for two purposes: first, in order to "shake down the doctor," to use a colloquial expression. Some patient who had a fancied grievance, threatened to bring or actually brought, a malpractice suit against the doctor on some trumped up charge, and after the doctor had become thoroughly alarmed over the prospect, they would offer to compromise for a certain amount, and the case would be settled out of court for two or three or five hundred dollars. In the majority of cases these cases were taken by attorneys on a contingent fee basis. Some attorneys made that a business, not with any intention of ever bringing them into court, but simply to get a compromise and get what they could. In other words, simply plain blackmail. The other class were dissatisfied patients, or patients to whom the doctor had sent a bill, and who brought the suit for damages in an attempt to offset the bill, and in those cases they found that the best means of protection was for the doctor to immediately bring suit for his bill.

I have not at hand the figures regarding the cases, but a very small number of the cases that were filed ever appeared in court, the majority of them being dropped by the attorneys or by the plaintiff as soon as it was found that a vigorous defense was made, or else settled out of court. Generally, the cases were dropped.

After the Chicago Medical Society had conducted this for two or three years the benefits of it became apparent to the rest of the state and the plan was extended to the entire State Society by the adoption of an amendment to the by-laws of the State Society. The state defense plan has been conducted for three years. Contrary to the expectations of the committee they found when the burden of medical defense was assumed for the entire state that malpractice suits were more common in the country than in the city. Before taking that up the argument had been made, at the time it was proposed to extend to the state, that it was all well enough for the city physicians and specialists, but the country doctor didn't need it. The committee found that suits were more common in the country than in the city, and consequently the work of the committee has been quite largely extended.

The work has been exceedingly successful in Illinois, due, I think, very largely to the energy and ability of the men who have had charge of it. So far there has not been a single judgment



rendered against any physician who was a member of the Chicago Medical Society or the State Medical Society since this plan has been operative. The number of cases that have gone to trial has relatively been small. Just at present I understand from Dr. Moyer that the committee is having a great deal of trouble in regard to so-called "gauze cases"; operative cases in which gauze has been left in wounds. Those cases have given the committee a good deal of trouble to defend.

A great majority of the cases have never come to trial, and the members of the legal profession in Illinois who were interested in those cases heretofore have learned that when they go into court to fight a case that is defended by the Medico-Legal Committee they are up against a very hard fight.

The Kentucky, Michigan, Iowa, Nebraska and Wisconsin state societies have also adopted this feature. One of the provisions in the New York plan, and also I believe in Michigan, is that when the physician turns the case over to the committee for defense he signs an agreement that under no circumstances will he compromise the case. When the committee once takes charge of it he must follow it to a finish. And that, I think, is a very important feature, because in carrying up these cases decisions are often secured in higher courts that are valuable in subsequent cases.

From what I have seen of the workings of the medical defense in the different states, I do not think there is any question but that the members of any strong and representative state association can furnish just as satisfactory defense, if not more, against malpractice suits than any private organization can. I think the majority of the members of the Illinois Society would agree that the protection that they receive from their own committee is better than that which they receive from any other guaranty or defense organizations that are doing business throughout the country, and they receive it at a very much lower cost. For instance, the protection only cost the members of the Illinois State Medical Society a dollar a year, and it is possible that in the next few years the funds can be invested in such a manner that that can be reduced. It has been the history in every state where the plan has been suggested that a considerable number of objections have been urged against the adoption of the plan, and those have been made theoretically rather than practically. In every state so far in which it has been adopted, in the course of a year after the plan was adopted those objections have disappeared, and the members have found that the plan worked admirably in practice. I do not see any reason why the State Association in Minnesota, with the membership and strength that you have, should not be able to conduct a medical defense that would be thor-

oughly satisfactory to all members of your society. (Applause.)

The Secretary: I suppose it is the desire of the House of Delegates to continue the Committee on Revision of State Medical Law until after the next session.

At this point, at the request of the President, Dr. Workman assumed the chair.

The President: The question of a medical law in a state is one that in the present condition of legislation in this state is fraught with danger. There is a feeling of antagonism in a large body of legislators as to any medical measures whatever. There are certain "isms" and "ologies" that have a foothold in our state which have been able to do things that the regular medical profession, because it has not perhaps adopted the same weapons they use, could not do.

It is the consensus of opinion that if a new law, such as the one that we had before us the other day, were presented to the next session of the state legislature it might result, not only in the defeat of that measure, but a repeal of, or a very injurious amendment to, the law that we have. We have a law, which, while it is not what could be desired, is a law upon which we can work and act at present. There are some very radical measures in the law as proposed by Chairman Andrews which received a great deal of criticism. It is a law that would actually "knock out" these men who have already a standing in the community. The result would be that they would raise a fund,—and it is possibly known to some of you here that other considerations than the commonwealth do sometimes prevail in legislative bodies,—and we on our part would be required to raise a fund of money, or to find such a fund in some way, to oppose it, and I think in the present state of the legislative mind that any radical changes in the present law would be fraught with danger.

It has been stated in this meeting by several men who have read papers in the symposium that the way to begin is to begin at home and begin with the men who are to be elected and not wait until you get into the legislature. You cannot do anything in there at all, but any man that presents himself as the suffragist of the people can be approached, and it can be ascertained exactly how he will stand, and it may be possible to get his written pledge that he will support a certain measure. There is not a man here, practicing in the country or in any of the cities, who cannot control, simply as a matter of personal favor, a large number of votes. Now, if the physicians in the state will unite and find out what sort of a man they are going to elect and elect the kind of a man they want, or convert the man that is a candidate before they elect him, they can do something in medical legislation.

Having once, for a brief period, been a states-

man in the House of Representatives, and having enjoyed some facilities of understanding how those things are carried on, I cannot urge upon you too strongly that you must begin at the very beginning. I, for one, am very strongly opposed to any attempt at medical legislation at present, but if you want some legislation convert your man. Your senators are already elected, but the man who is going to the house at the next session can be got to promise something, and if he promises it to the people and publicly announces that promise, you can hold him to it, but you cannot hold him if he gets in there first. They don't want obligations. I heard a very prominent gentleman, who was on the Committee of Medical Legislation, say: "We don't want any of your committees up there. They are simply a bore and a bother. All we need is a little money, and we will take care of the matter."

You begin at home and you can do something. President Williams then resumed the chair.

Dr. Beebe: I understood the request of the Secretary was in reference to the present committee being retained.

The President: The purpose of my speech was to oppose the appointment of any committee at present. I would like to have an expression of opinion from the House on that matter.

Dr. Foster: I feel quite strongly in sympathy with the remarks which were just made. I do not think that there would be any special harm in continuing the present committee, because I do not suppose they would have any meeting, but I am very much opposed to any attempt at the present time to alter in any way the medical law, unless it should be to abolish our present medical act entirely. I am not so sure that wouldn't be a good thing. All these people who are making efforts to become licensed in this state—we have got the osteopaths, and we will pretty soon have the chiropradists and various "pathis" and "isms" and "ologies"—and they are all going to get it before we get through. There is not any particular advantage in our present law, such being the case. I think we have a law that, as long as it remains, will do as much good as any other law is likely to do, and I think if we make any attempt to change it it will be injured so that it will be worse than useless. I think we should be very unwise to attempt any medical legislation at this time. Consequently, if this committee is going to be at all active I would like to make a motion that it be discharged, with the thanks of the Association for the work they have done in the matter.

The motion was seconded by Dr. Beebe, and on being put to vote, prevailed.

The President: I would like to say, as pointed out by Dr. Johnson the other day, that it would destroy our relations of reciprocity with other states. The committee is discharged.

Dr. Bell: Before we adjourn, in connection

with the question of this committee, it would seem to me proper at this time to instruct or suggest to our delegates to the American Medical Association the necessity for an effort in connection with more uniform legislation. We ought to have legislation—I think we are all convinced of that—but certainly the present plan is an absurd one; no two states have exactly the same laws, it is an absurdity. An effort should be made by the American Medical Association to, if possible, arrive at some plan of uniform legislation, and then we would have something to work upon.

Dr. Tomlinson: I would like to ask Dr. Green if there is not a committee of the American Medical Association already at work upon that matter.

Dr. Green: That matter of a uniform law for the states has been up before the House of Delegates of the American Medical Association for the past four or five years. The matter is in the hands of the committee on medical legislation, and we are accumulating a large amount of matter along that line, upon which subject I expect to say a little something this afternoon, with a view to formulating just as soon as possible a medical-practice act that will be capable of uniform adoption, for submission to the different states. The only reason that has not been done before is that so far we have not found anybody capable of writing a law that would fit all the states. We are getting together a large amount of matter, historical and judicial, with a view to formulating such a bill. That matter is being pushed just as fast as possible, and I think the committee will have something definite to report, not final, but something definite along that line at the next session.

Dr. Workman: I would like to say that immediately after this body adjourns the Council will meet in this room, and before we adjourn it will be necessary to select a place of meeting for the next annual meeting.

Dr. Bell: We should be very glad to have the state meeting with us next year, if it is the wish of the House of Delegates.

The President: At what time, Dr. Bell?

Dr. Bell: That can be left to the House.

The President: It is competent for this House to fix the time and place.

The Secretary: I move that the meeting take place in the month of October, the time to be fixed by the Council.

The motion was seconded by Dr. Tomlinson, and on being put to vote, prevailed.

On motion of Dr. Foster, seconded by the Secretary, a vote of thanks was offered to the physicians and citizens of Winona for their royal entertainment.

On motion of Dr. Geer, the House of Delegates adjourned.



[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

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One of the best practices in a Minnesota town of 500 people for sale at a bargain. No competition. Will take doctor in partnership for the winter months in order to introduce him thoroughly. It will take \$2,500 to make the deal—part cash. Price includes complete up-to-date office outfit worth \$1,500, and location with introduction. Chance to earn part of it while getting the introduction. Address D. W., care of this office.

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A practice in a good Idaho town is for sale cheap; pretty place to live in; collections cash. Write or call on Dr. L. N. Klove, 1502 20th ave. N., Minneapolis. T. S. Phone, 13492.

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A rare opportunity for a young man who desires to establish himself in a growing and progressive town of 7,000 inhabitants in the northern part of the state. Practice paid me \$4,000 cash this year. This chance is available to the one who buys my office furniture and furnishings of private room adjoining. I must

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## PUBLISHER'S DEPARTMENT

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## NOTES ON EMPYEMA: DIAGNOSIS AND TREATMENT\*

PRESENTING A NEW INSTRUMENT FOR SECURING PERMANENT DRAINAGE

By W. T. ADAMS, M. D.

ELGIN, MINN.

Empyema has gained a clinical significance in later years that makes it incumbent upon us to have a better understanding of its diagnosis and management, so that our patients will escape, in a greater degree, the baneful effects that follow in the wake of neglected cases. It is the province of this paper to venture some deductions concerning the disease, and to emphasize a few points in the matter of diagnosis that seem to the writer to be of importance, and then to make some suggestions as to treatment that he thinks important, all of which are deductions from personal experience, rather than conclusions drawn from the books.

The time has come when empyema is no longer to be looked upon as shrouded in mystery, but rationally as an accumulation of pus in one of the large serous cavities of the body, the chest, and like accumulations of pus elsewhere, and is amenable to the same laws of aseptic surgery.

Empyema may be, and frequently is, of traumatic origin, but by far the larger number of cases occur as a sequel to pneumonia; hence when fever continues beyond the normal period for resolution in pneumonia careful and repeated examinations should be made for empyema. It will be found to be the cause of the prolonged fever more often than anything else.

Evidences of pleurisy will be the first thing to be looked for, but its diagnostic symptoms may be so obscured by respiratory sounds that a positive diagnosis is hard to determine, although the fact that fever continues beyond its normal time should make us very careful, and the first evidence of fluid in the chest should be recognized, whether pleurisy has been diagnosed or not. The sensibilities of the patient may be so obtunded that he will not notice the pain, and the fluid may form so rapidly that there is virtually no initial stage. I wish to emphasize this point, for I believe that, with the busy practitioner, it is too frequently overlooked, and disastrous consequences follow, which an early diagnosis might have mitigated, if not prevented, altogether. Just as soon as fluid has been recognized in the chest, an exploration should be made to determine its character. I can conceive of no harm to come from the introduction of a large-sized strictly clean hypodermic needle into the chest, whether fluid is found or not; hence I would justify the use of the needle in all cases of a doubtful character. I do not think, however, that the careful examiner need very often be in doubt as to the existence of fluid, if he will carefully consider the percussion-note. An absolutely flat percussion-note is almost sure to indicate fluid. Auscultation is a valuable aid, but is not so dependable as percussion, for there will be more or less transmitted sounds that tend

\*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

to lessen its value. The matter of change of posture to change the location of sounds, is valuable in a large number of cases, but if the chest is much distended with fluid it loses its significance. Conditions other than fluid that will give rise to dullness, will give a deep dullness, more or less sonorous, while the dullness from fluid accumulation is flat. Do not lose sight of this fact. It is of the utmost importance. I am in the habit of waiving whatever evidence there may be in the way of transmitted voice-sounds, which will vary with different individuals according to the loudness of voice and the amount of fluid, so long as the percussion-note is flat.

When fluid has been diagnosed, if fever continues, infection is to be suspected and an exploration should be made to determine its character. If sterile serum is found, the operator may elect his course: either wait for the action of therapeutic agencies, or, preferably, an aspiration should be made at once. If the fluid is infected, the writer is more than ever convinced that early evacuation is the rational treatment. If the infection is pneumococcic, a few aspirations may effect a cure, but if relief is not speedily obtained, the radical method of drainage should be used, and the operation should not be deferred too long. Allowing the fluid to remain too long exerts a deleterious influence on the heart and blood-vessels of the chest, and the lung which is pushed out of its normal relations, is likely to be tied down by bands of adhesions, and it is the logical conclusion that the longer the process is allowed to go on the stronger the bands become, and the less likelihood of a restoration of the lung when the pressure is removed. Adhesions of short duration will generally give way to physical exercise, while the large number of deformed chests that are to be found as the sequel of deferred or neglected cases, speaks volumes in favor of early operation.

Besides the damage done by adhesions the general welfare of the patient is seriously jeopardized by auto-infection from the pleural cavity, and the interference with respiration by loss of the compressed lung is of itself a formidable menace to the patient's welfare. I do not think that too much stress can be put upon this suggestion. The clinical picture of deferred cases, is that of general toxemia, to which is added the shading of suboxidization of the blood. Such cases cry out for immediate relief, and it is the writer's opinion that with an early operation

we have everything to gain and nothing to lose. I do not wish to put up this opinion against the idea of sterilizing the contents of the chest with formalized glycerine, or with other methods, but it seems to me that the sterilization may be done with equal facility after the deleterious effects of the fluid have been removed, which can be done with admirable facility by the method of operation which I will presently describe.

As to the various methods of operation one must be governed by his case. Each case is a law unto itself in the hands of the intelligent operator. In selecting the point of operation there are various rules laid down in the books that are a safe guide, but there are no laws that are invariable. It is the writer's belief that a point should be selected over the most pendant portion of the fluid mass, so as to facilitate drainage, taking care not to place the drainage close enough to the point of the scapula to interfere with its movements, and care should be taken not to place the tube close enough to the diaphragm to come in contact with it, as it is likely to excite fits of coughing. One should not lose sight of the fact that old adhesions may make the fluid mass present different in some cases, and a close watch should be kept to know whether every part of the chest is drained, as there may be separate parts walled off so completely that all will not be drained with one operation.

As to the various methods of operation, one the books are not very specific. It has been the writer's experience that a tube that reaches well through the chest-wall is sufficient, and it should be of considerable size in order to be effective. As to the resection of a rib, it is a matter of preference, but the writer's successful experiences have been without resection, and the results obtained will compare with those of any one else. It is good surgery not to mutilate the body more than is really necessary to accomplish results, and my experience favors the idea of non-resection.

In making several operations with the open method, and witnessing the rapid ingress of air into the chest, and noting that with the escape of fluid, there is no corresponding expansion of lung, which is one of the ends sought for, it has seemed that it is incumbent upon the profession to provide a method of operation that shall evacuate the fluid and at the same time invite the expansion of the lung, rather than augment its contraction.

In recalling the anatomy of the chest it



will be remembered that the lung is largely composed of elastic fibrous tissue, and that in its unrestricted position it maintains a certain size, much smaller than the chest-cavity in which it is contained, and that by the acts of respiration it is kept distended with air in obedience to the law of atmospheric pressure, so that every part of the healthy chest is filled with the expanded lung, and that at the moment the vacuum is destroyed by admitting air the lung resumes its natural size by its elasticity; in other words, is collapsed, and takes no part in the act of respiration. Hence it is that in operating upon the chest in the usual method we not only do not invite the expansion of the chest, but leave the already collapsed and, more than likely, imprisoned lung to itself, a further prey to the growing adhesions. Instead of this, if an operation can be made that will evacuate the fluid without admitting air into the chest, the vacuum will not be lost, and as the fluid escapes the compensating atmospheric pressure will augment the expansion of the lung, and if the operation has been done early, as the writer insists that it should be, most of the bands of adhesion will give way, and the lung will assume its normal relations. Admitting air into the chest in late cases is not of so grave importance when the lung is almost hopelessly imprisoned, but it is no advantage, and the same care should be taken with one as with the other.

Agreeable to these impressions the writer has designed an instrument that meets these indications in so satisfactory a manner that it will be applicable to all cases, and can be worn by the patient with comfort, almost indefinitely, and is cleanly and wholesome, and will overcome the loathsomeness of wearing dressings, into which the offensive discharges of empyema are received. This instrument will be presently shown and described.

As to the graver operations on the chest, as laid down in some of the modern works on surgery, for relieving some of the graver sequelæ of empyema, it seems to me that surgery is extending into fields where there is eminent danger, and its use should be restricted to few cases, and those in the hands of only skilled operators. Many a chest will make remarkably good recovery from deformity of its walls, and curvatures of the spine will greatly improve by careful attention to mechanical movements without braving the dangers of grave operation. At least, this touches the field for true conservatism.

As to therapeutic measures, there is very little to say farther than that they aid in maintaining the general constitutional condition of the patient. Much more will be done in the future than in the past along the lines now being worked out in sterilizing the chest-cavity, and there is no aid that will facilitate such measures more than the instrument I am about to present, in that it renders the introduction into the chest of therapeutic agencies, always under the operator's control, without disturbing the patient.

The convalescent from empyema, no matter how he has been treated, should be carefully trained in the use of chest-exercises that tend to expand the lung, and the doctor who fails to instruct his patient is derelict in duty.

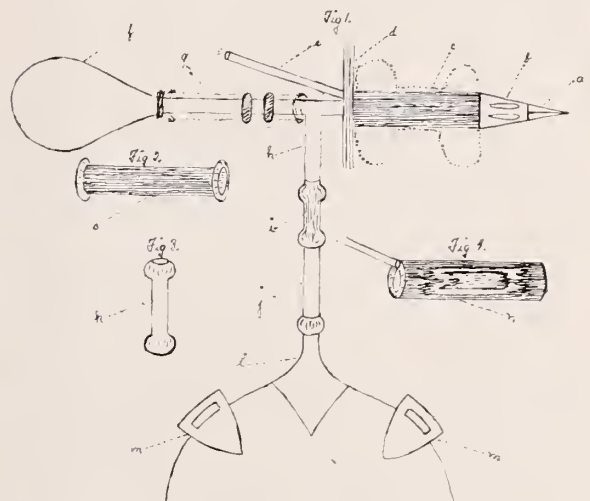


PLATE SHOWING PNEUMATIC CANULA

Fig. 1. Canula complete ready for use. *a*, Point of trocar. *b*, End of canula showing fenestra. *c*, Pneumatic cushion surrounding shaft of canula. The dotted line shows the cushion inflated, the central portion constricted by the tissues of the body through which it passes. *d*, Metal shield, which is provided with openings for tapes or plasters for securing instrument to patient's body. *e*, Small rubber tube for inflating cushion. *g*, Rubber sleeve applied to canula and shank of trocar. *h*, Metal branch of canula, connected with *i*, a piece of rubber tubing, and *j*, a glass insert-tube, with *l*, the deflated rubber bag. *m*, Ears or rubber bag. *f*, Handle of trocar.

Fig. 2. Rubber sleeve.

Fig. 3. Glass insert.

Fig. 4. Pneumatic cushion. Section of walls removed to show air-chamber between walls.

#### PNEUMATIC CANULA AND TROCAR

The instrument that I have designed, and which I wish to present for your consideration, is a modification of a canula and trocar, so constructed that after it is introduced into the chest and the trocar is withdrawn, the proximal end of the canula is securely closed against the admission of air, by pinching a rubber sleeve, which is carefully adjusted to the shank of trocar and the end of the canula, so that it is an easy matter to guard it as the trocar is with-

drawn, when it is to be securely fastened with a ligature, or a pinch-clasp may be used. (Shown as "g" on the diagram.)

A T-branch is provided on the canula near its proximal end, which has an opening through it corresponding in size with the opening through the canula. By means of this T, connection is made by means of rubber tube (i) with a glass insert (j), by which the fluid may be inspected, with a deflated rubber bag into which the fluid is discharged, thus avoiding the possibility of admitting air into the chest. The canula is flattened so that its lateral diameter is twice or three times as great as the perpendicular, which increases its carrying capacity without increasing the space occupied between the ribs. The distal end of the canula is provided with an expanded end (b), which is hollow, and is provided with two or three fenestra, which insures the free access of the fluid through the canula.

The distinctive characteristic of the instrument, aside from the arrangement for conducting the fluids into a clean rubber bag, sealed against admitting air, and the manner of closure of the canula as the trocar is withdrawn, is a device which I have styled a pneumatic cushion. This cushion is so constructed that its walls are double, and between them is an air-chamber which is provided with a connection through which air can be injected and the cushion inflated to any desired extent. The cushion is placed on the main shaft of the canula so that it envelops it from a guard or shield plate (d), near its proximal end to the expanded distal extremity where the end of the cushion is received into a recess in the expanded end, which protects it while the instrument is being introduced.

The shaft of the canula is designed to be long enough so that when the instrument is introduced, the cushion will reach through the wall of the chest, leaving a free end of the cushion, both on the inside of the chest and outside, so that when the cushion is inflated it will balloon out over the tissues, both inside and outside (see dotted lines on diagram), while the middle portion will be constricted by the tissues of the body through which it passes, rendering the entire cushion dumbbell shaped, and by the air pressure the passage way around the canula will be effectually sealed. The cushion will make the instrument self-retaining, and by its elasticity will render it comfortable for the patient to wear.

The shield-plate referred to is placed near the

proximal end of the canula, but beyond the branch, and is curved to fit the form of the patient's body, and there are openings in the end of the plate for fastening tapes or strips of plaster, by which the instrument is secured to the patient's body. The cushion is strongly constructed of pure rubber and can be inflated according to the notions of the operator.

The point of the trocar is so constructed that it will do all the cutting necessary in the introduction of the instrument, which is desirable, in order to secure the best results as to sealing the chest against both air and fluids. If it is found best to precede the introduction of the instrument with an incision it should be very limited in extent.

The rubber bag into which the fluid is received is designed to be made of soft pure rubber so that it can be rolled up to exclude all air before it is attached to the instrument. It is provided with ears through which tapes can be fastened for the purpose of suspending the bag to the patient's body when up and around. The bag may be connected with any length of tube the operator may desire when in bed, or it may be slung to the body or carried in a convenient pocket about the clothing. It is provided with a metal cap-outlet by which it can be cleansed.

This instrument should appeal to you on account of its aseptic simplicity, the ease with which it is sterilized, and the facility with which it is used in operating, and its universal adaptation to a large range of uses other than draining the chest.

It is designed to be used in most all cases without resection of a rib, hence the operation is minimized and can be done with local anesthesia. It is applicable to all cases, but is particularly adapted to ambulating patients, and many bedridden patients will be enabled to be up and around with its use.

It is just the thing to use in connection with an aspirator, as it is under control in every way, and explorations may be made through the canula better than with other instruments.

This instrument should appeal to those who wish to introduce sterilizing or therapeutic agencies in the chest, as it is always accessible and under complete control.

And, *par excellence*, it is the ideal instrument for draining an empyema without admitting air into the chest, as advocated in the foregoing paper, which will soon get to be the recognized ideal method of management of such cases.

# A PLEA FOR MEDICAL INSPECTION OF SCHOOLS\*

By R. M. WHEELER, M. D.

HOT SPRINGS, S. D.

The sacred duty of the medical profession lies in alleviating physical and mental suffering and in bettering the type of the human race. If, then, this is, in part, the province of the physician's work, the enormity of his responsibilities in this particular cannot fail to impress him most strongly just at this season of the year when the opening of school sessions, far and wide, causes, at least, a small part of a countless army of children to pass our doors on their way to the various institutions of learning, which have for their aim and purpose the finishing of these helpless, irresponsible, youthful beings into completely qualified and useful citizens.

The debt which every state or nation owes every new-born child, is a course of systematic training, which shall enable him to make the greatest possible use of his individual powers, thereby ultimately making him an infinitely small, yet incalculably valuable, factor in the development of the nation as a whole.

Since a state cannot act *in persona*, it must choose agents or representatives through whose efforts the desired result may be brought about. It at once becomes evident that the work of caring for the physical and mental progress of this great body of children, who constitute the hope and foundation of the land, must be entrusted to four classes of agents, namely:

1. Parents
2. Teachers
3. Physicians
4. Educational authorities.

It must be admitted, that of the four above named, the three classes, parents, teachers, and educational authorities, have long since been giving their best efforts, though often misdirected, toward making all this crude child material into useful citizenship.

I should be a cause of severe self-condemnation to the physician that, up to this time, he has held himself practically aloof from those who should be his most sacred charges, and that only under protest has he voiced his sentiments in regard to the proper rearing and enlightenment of our citizens-to-be. However, even belated efforts on the part of the profession are not to be despised. That there has been an interest arous-

ed, and that there has been an awakening as to a proper conception of the part which the medical profession should play in the solution of problems pertaining to child education, are indicated by daily reports of congresses and commissions which show that medical men are beginning to devote their best work toward the discovery of a millennium of school-life.

Europe has made inconceivably rapid strides toward the perfecting of a system of medical inspection and instruction in schools. Nearly all the large cities of the United States have taken steps in this direction. Such efforts, however, have not, as yet, been conceded to have produced the desired end, and consequently the system of medical inspection for schools in the United States is still in a very embryonic stage.

It is pertinent in the discussion of this question to discover at the outset why immediate co-operation and help on the part of the medical profession are needed to aid our school governments in emerging from their present state of ignorance concerning the best methods of elevating and caring for the child.

It requires but the mention of a few well-known existing evils and conditions to prove conclusively that immediate improvement is imperative.

Schoolrooms are poorly lighted, insufficiently heated, badly ventilated, seldom fumigated; in general, school sanitation has only comparatively recently been made the subject of thought or study.

School-children are every day being admitted into school when they are either *entirely unfit* or only *partially fit* to gain any benefit from the course of instruction presented to them.

Among the defects and diseases which seem particularly pronounced and prevalent among all classes of school-children may be mentioned visual, aural, and throat defects, mental incapacity or backwardness, chorea, nervousness, curvature of the spine, anemia, diabetes, tuberculosis in its various forms, skin diseases, pediculosis, malnutrition, headaches, indigestion, cardiac difficulties, and deformities, to say nothing of such contagious diseases as scarlet fever, diphtheria, measles, and whooping cough, which, at times, make the closing of entire schools necessary.

Numerous teachers with dangerous or uncer-

\*Read before the Black Hills District Medical Society of Hot Springs, S. D., Sept. 3, 1909.



tain health are employed. Few, if any, teachers have knowledge of or instruction in even the most rudimentary laws of hygiene and sanitation. Parents are ignorant of the fundamental rules which govern the physical well-being of their children. Boards of Education have little or no knowledge concerning the proper environment of children in the schoolroom.

It seems that by no other means can the proper education of the child be so quickly arrived at as by a compulsory system of medical inspection. When once medical inspection for schools shall have become established, we shall not need to fear for the degeneration of the human race.

The general plan and scope of a system which appears entirely tangible and practicable may here be briefly outlined.

1. Each pupil should be examined as to his physical and mental condition upon first enrollment in school, and several times subsequently, by a physician appointed according to state laws.

2. On the first few opening days this physician should be in attendance at the school and make a report as to each child's condition, which report should then be kept on record at the school.

3. The above report should be used in excluding from school children who are physically unable to endure the routine of school-life. It should be used for singling out those who are partially defective physically, as, for example, those suffering from eye, ear, or throat trouble, that they may receive special consideration at the hands of the teacher. It should be used for determining those who are mentally so defective as to be absolutely refused admittance into school or so defective as to be placed in a class by themselves where they may not feel any sense of shame or disgrace on account of unfavorable comparison.

4. The physician may reserve, after the term-enrollment, only certain days or hours at his office, where, at the discretion of the teacher, children may be sent to him for special examination.

5. The physician should perform or confirm all vaccinations.

6. The physician to whom work has been entrusted should make to the educational authorities a written report as to what he considers the existing evils of the schoolroom and building, and make suggestions as to how this part of school sanitation may be improved. Poor lighting, bad ventilation, defective plumbing, dangerous stairways, insufficient heating, might

all be considered matters which would come within his sphere of supervision.

7. Every school physician, so employed, should receive a fixed remuneration for his time and services.

A few additional remarks may now be given as throwing light upon and as helping to solve the problem of school hygiene.

*Education* was formerly a term synonymous with *instruction*. *Education* is now a term synonymous with well-rounded, well-balanced development.

The overdemands made on both body and brain of even the youngest and most delicate pupil immediately upon entrance into school cannot fail to quickly bring about an overwrought tension of the physical and mental functions of the child, only to be closely followed by the most disastrous consequences to his future health.

The number of subjects taught, even in the grades, gives rise to a dissipation of effort on the part of the child to a nerve-racking strain in an attempt to keep up with his work, and to a mental dread and fear of not passing, which slowly sap his strength, so that he is no longer capable of well-concentrated, well-directed, well-applied exertion or effort.

This is the cause of the so-called "superficiality" in modern education. The child is expected to grasp too many and too diverse facts. Yet not only must the present school curriculum be revised, but the child's health must be closely inspected and guarded.

Among the chief causes that produce mentally deficient or backward children may be named fatigue or chronic exhaustion, malnutrition or starvation, toxemia, adenoids, nervousness, defective vision or hearing. Yet it is remarkable that some of these defects, so seriously interfering with the child's chance of a normal education, are easily corrected at the outset.

Again, medical inspection means the sorting out of children, so that they shall fall into lines of school-work which shall mean their best development. It is, however, a well-known fact that just those children who are most handicapped by physical and mental defects, are the ones who are most sensitive when these defects are discovered.

Lack of time, religious desire to do his best by the greatest number of pupils, overburdening and excessive demands on the teacher, ignorance as to the actual state of the child's health, are some of the reasons why less capable children have been objects of derision, neglect, and

discouragement on the part of the teacher into whose hands they have fallen.

Here, we clearly see the necessity of doing our duty by the backward child, so that he shall be able to become a useful citizen. Yet many abnormal or defective children have either voluntarily left, or have been withdrawn from school on account of the disheartening attitude of the teacher, or on account of an environment where they were fast losing the small amount of self-respect and self-confidence which they possessed, and have been returned to homes where parents have not been sufficiently tolerant of, or sympathetic with, their incapacities and defects; and they have consequently been forced out into the world utterly untrained and undeveloped in some of the powers which were only latent in them. Thus, inadequately equipped, robbed of self-respect, ignorant of their own merits and possibilities, they have been expected to meet the demands of an outside world, where conditions are fast becoming so exacting that even the healthy, well-trained individual has difficulty in holding his own.

The greatest number of such children always find their way into the factories where child-labor laws are unheeded and unknown, and the remainder succumb to crime, disease, or death.

Right here should be emphasized that in small town or country schools more attention should be given to the "personal element" in teaching, which, in other words, means individual assistance. In large cities there are always several, if not many, of the same kind of physically and mentally constituted pupils, who fall easily into groups where they receive instruction commensurate with their progress and ability, whereas in small schools the lines of demarcation into classes cannot be so easily drawn on account of the small number of children in attendance and the great diversity of their ages.

In a small school a teacher must become more impressed with the individual needs of the child; and most educators agree that the efficiency and personal popularity of a teacher, which latter, by the way, is a factor in instruction that cannot be too highly estimated, are largely due to his ability to adjust his teaching so as to reach all pupils, notwithstanding their widely differing mentalities and health.

It seems that some of the "grinding monotony" of school routine could be done away with, by shortening school-hours and by requiring more home-study, for, in the home, the general surroundings are more conducive to health. Home-

study can easily be made profitable, if once the parent has laid down the immutable laws of self-help and concentration. Strenuous school athletics should be severely deprecated, as tending toward an overdevelopment of some parts, and not toward the production of a well-rounded whole. Murphy, a well-known trainer in college athletics, says, "The greatest evil in developing University football is that so many otherwise promising players are strained by hard playing before they are sufficiently developed in growth or strength to stand the great strain of football, in other than purely friendly boyish games, under some sort of watchful and intelligent direction of their elders."

There can be no question in the mind of anyone who has closely observed the progress of our high-school athletics that just this lack of supervision, this utter ignoring of the physical fitness of the prospective player, can work anything but injury to the growing boy or girl.

It is appalling to note the incompetency of most teachers to assist in this campaign for the betterment of school hygiene. Sommerville, an eminent authority, discusses many things which a teacher should know, which, nevertheless today find no place in his training. The teacher, he thinks, should understand the broad principles of biology and have intimate acquaintance with human physiology. He believes that education means the completest possible adjustment of the individual with his physical and psychological surroundings.

A part of the plan of a system of medical inspection should, then, include the proper education of teachers along the lines of physiology and hygiene. A state commission of medical inspectors should come to an understanding and agreement, and should lay down certain simple rules of school hygiene, which should be mastered by every teacher and inculcated into the mind of every pupil. Such lessons might include instruction in bodily and mental cleanliness, personal habits, injurious exercises, proper time of eating and studying, effects of narcotics and alcohol, simple methods of preventing the spread of disease, etc.

Not only should teachers be better trained in the fundamental laws of physiology and health, but they themselves should be better examples of well-rounded mental and physical beings. Every teacher should be compelled to produce a health certificate on application to teach.

Medical inspection should bring it about that it shall be considered a misdemeanor and a crime



to allow a child afflicted with tuberculosis to receive instruction in the same room with healthy children, and to permit a teacher diseased with cancer to hold his position until a few weeks before his death. Yet statistics taken all over the country show that the greatest mortality among the teaching profession occurs *during* the school year, and principally from the three causes, tuberculosis, cancer, and nervous disorders.

When health shall have been made a requirement to teach, then will come the best co-operation between teachers and medical inspectors. In all parts of the United States teachers are in sympathy with the movement of obtaining medical inspection in the schools.

The only remaining factor in this great cause which has not been considered, is the parent. If the proper methods of enlightening the public are used, if we do not become weak-hearted at failure, and if we do not swerve from our determination that the child shall have a right to health, we cannot fail to enlist the sympathies of fathers and mothers in this attempt to produce the greatest physical and mental well-being in the child.

It is true that until recently there has been on the part of the parents a storm of opposition to medical inspection; but the intelligent element of American parenthood is fast coming to our aid, and insubordination to and antagonism against medical supervision will soon be a sign of ignorance.

That a great deal of resistance will always come from the illiterate class of parents may be shown by the following letter, which was received by the head mistress of one of the schools in Devon County, England. A mother writes:

"Dear Madam: I objects to my child being overorkld by a doctor. I clears his blood vessels reglar with brimstone and treacle and he dont want no more doctrine.

It can easily be believed that it will require no great length of time before the parent shall have been educated up to the point where he will realize that the child that is not strong or normal, mentally or physically, has a right and claim to the utmost consideration and help toward a betterment of his state.

The amount of current literature on the subject of child-study is a significant proof that the public is demanding enlightenment. The work of the large number of societies for the promotion of the welfare of the child, of the highly commendable mothers' clubs, which hold joint

meetings with teachers' clubs, of educational congresses and medical associations, points to an undeniable awakening as to the need of medical inspection and supervision in all the schools of the land.

In closing, it may be apropos to give just a very few statistics to show the nature and extent of the medical work that has been carried on in connection with schools. (All statistics are taken from the Journal of the American Medical Association.)

In Berlin 8 per cent of all public-school children entering were excluded on account of disease or debility. Of those allowed admittance 25 per cent were immediately placed under medical care and attendance.

Medical inspection of schools in Montreal for a period of six months showed that 20,682 pupils were affected.

E. Mather Sill, M. D., New York, in a study of malnutrition in the school-child says that he concludes that there are in the cities of the United States 3,682,239 school-children, and that of these practically 33 per cent are ill-nourished or suffer from malnutrition.

In Boston in a grade-school building of 1,200 pupils, 10 per cent were found to be defective visually.

In the University of Pennsylvania when eye-tests were made obligatory it was found that 30 per cent of all students examined were defective in vision of one or both eyes.

In summarizing we may indicate just what medical inspection for schools would mean.

It is safe to say that the extension and perfection of a system of medical inspection would mean the building up of a higher kind of manhood and womanhood, and, ultimately, the production of citizens of the highest type, and the creating of a national race better able to meet and cope with the ravaging demands of the present day social and commercial life.

The *defeat* of such a system could easily be brought about by entrusting its execution to teachers, parents, and educational boards.

The *success* of such a system can be attained only by placing the responsibility on men of the medical profession whose ability, earnestness, honor, and skill cannot be questioned.

The enthusiastic agitation which this question must receive before the mighty wave of sentiment in its favor shall roll on by itself, must come from medical men of undeniable repute.

Richard Cole Newton, M. D., in a paper on



"Hygiene and Sanitary Science" before the American Medical Association, says:

"We must be up and doing. The proposition to appoint by law in each state a commission to take charge of the *physical instruction* in every public school, and to look after the proper execution of child-labor laws, should receive the untiring and united support of the entire medi-

cal profession."

To repeat: The medical profession, by reason of its duty to humanity and by reason of its scientific knowledge, must take the initiative in an attempt to establish medical inspection in schools.

As a final word, may I not make the appeal a personal one, and say, are we going to do it?

## TUMORS OF THE BLADDER

By E. S. JUDD, M. D.

Junior Surgeon to St. Mary's Hospital

ROCHESTER, MINN.

An accurate knowledge concerning primary tumors of the bladder during life has only become possible since the invention and the development of the use of the cystoscope.

Vesical tumors are divided into two classes: *benign* and *malignant*. However, the most common type of tumor, papilloma, which was classed originally as a definitely benign tumor, has shown its ability to recur and to cause death by recurrence, therefore finally developing the characteristics of malignancy.

*General Consideration and Classification.*—About one-fourth of one per cent of all tumors occur in the bladder, and they occupy three and nine-tenths per cent of all genito-urinary cases. Males are affected almost three times as often as females, and the disease is most prevalent during middle life.

The most practical and accepted classification of these tumors is that made by Kuster and modified by Davis: It is as follows.

- |                            |                   |
|----------------------------|-------------------|
|                            | Papilloma.        |
| 1. Epithelial Group.....   | Carcinoma.        |
|                            | Adenoma.          |
|                            | Cysts. (dermoid). |
|                            | Sarcoma.          |
| 2. Connective Tissue Group | Myxoma.           |
|                            | Fibroma.          |
|                            | Angioma.          |
| 3. Muscular Group.....     | Myoma.            |

The most frequent and also the most important tumors of the mucosa and submucosa are the papillomata. These tumors are composed of a branching connective tissue center, with a fine network of vessels, and every portion is covered

by an epithelial layer. They have a marked resemblance to the vegetable cauliflower. Most of them have a distinct small pedicle, though occasionally a great number of small papillomata are attached together to the mucous membrane of the bladder.

In our series of 56 operated cases, 42 were of the papilloma type. This type of tumor is prone to recur, though the recurrence is not likely to appear at the site of the primary growth if it has been thoroughly removed.

In cancer of the bladder there is very frequently a formation of papillæ which are scarcely to be distinguished from those of papilloma, but careful examination will disclose a characteristic infiltration of a papillary cancer.

Scirrhus carcinoma of the bladder is not common. We have seen but two such cases. The adenoma type of tumor may occur in any portion of the bladder, and it is made up of branching tubules with a single layer of cylindrical epithelium. It is usually flat or nodular in form. No cases of this variety have come under our observation. Although dermoids are occasionally seen, cysts of the bladder are very rare.

Sarcoma and myxoma occur occasionally in children though these types of the disease are not frequent. There were none of the fibromata in our series. We have seen one of the angioma type. This was in a child five years old; a large angioma presenting in the rectum and the base of the bladder. Myoma springing from the muscular layer, may develop into the bladder, and outward into the peritoneal cavity.

Most tumors of the bladder are located in the base of the organ in the vicinity of the ureteral orifices, or near the orifice of the urethra.

Papilloma occurred 42 times, carcinoma 13 times, and angioma once. We have not ob-

served any transformation of the cells in the recurring cases, although in three instances tumors removed through a suprapubic incision occasioned a rapid recurrence in the abdominal wall. The nature of the growth was identical with that of the removed tumor.

*Etiology.*—But little is known as to the etiology of tumors of the bladder. Areas of degeneration of mucosa showing granulating surfaces will often be seen in cases of marked cystitis, and in several instances we have observed a thickened, red, localized area in the bladder wall, caused by an inflammation or a pressure from outside of the bladder, but we have never known a "true" papilloma to develop in these cases. Repeated irritation, as from calculi, will not produce these tumors, and in our observation of cases, the tumor has never been associated with the stone, except the deposits of salts and incrustations that frequently occur in papilloma.

*Symptoms.*—The early and characteristic symptom of tumors of the bladder, is painless hematuria. This was observed to be the first symptom in more than half of our cases. Bleeding may occur at intervals; the urine appearing clear for weeks or months at a time. Frequency and burning are usually associated with the bleeding, which is likely to increase in frequency until there is constant loss of blood. This was demonstrated by a hemaglobin estimation of less than 25 per cent in several of our cases.

In view of the fact that so much depends upon getting these cases early for operation, it would appear to be the duty of general practitioners to follow every case of painless hematuria, and not to allow it to go on while awaiting developments.

All of the urine passed may be bloody, and again it may show blood only during the last few drops. The blood may disappear after a single micturation, or it may be present for weeks. As long as the blood is thin and does not clot, there will be very little pain. If the tumor lies close to the urethral orifice, partially obstructing the urethra, pain and obstruction will be an early symptom. A carcinoma involving the bladder wall is more apt to produce pain, than the papilloma which is suspended on a pedicle.

Oftentimes pieces of a papilloma will be passed, and a spontaneous cure has been known to result in a case of a small pedicled tumor, which passed entirely away.

If these various conditions are allowed to proceed without treatment, most of the patients who survive the loss of blood will eventually

succumb with uremic complications, and if cystitis develops the suffering will become intense.

*Diagnosis.*—Diagnosis of tumors of the bladder can be made by the cystoscope alone. With the aid of this instrument we can determine accurately, the appearance, location, size and number of tumors; their mobility, attachment, and the extent of involvement, and we can in almost every instance snip off a piece of the tumor large enough for diagnostic purposes, though this is sometimes difficult on account of the extreme tenderness of the urethra, and a very profuse bleeding. In making a routine examination of the urine in all cases we will sometimes find blood that has not been apparent and that cannot be accounted for by other conditions, but if we cystoscope these cases we will occasionally discover a small tumor which can easily be excised at once.

*Prognosis.*—Watson has studied the records of 653 cases of vesical tumors; 243 benign, and 410 malignant, and has found that following more or less radical operations for papilloma and myomata, 34 per cent were free from recurrence at the end of a year. He states that if the operative deaths and the rapid recurrences are combined under the head of operative failures, such failures have occurred in 28.6 per cent of benign tumors, and 46 per cent of carcinomata.

If left alone benign tumors may cause death by extension, repeated hemorrhages, or from pyelonephritis following cystitis. In many instances if the growth is thoroughly removed, the patient will recover and remain well.

The prognosis in cases of carcinoma of the bladder is as favorable as in carcinoma of other regions, as the lymphatics in this locality are slow to become involved. There can be no question as to the advisability of removing these tumors if we get them early. But should the growth be so extensive that we are unable to remove it thoroughly, we will accomplish little or nothing by interference.

*Treatment.*—Small pedunculated tumors may often be removed through the urethra with the operating cystoscope, providing one is skilled in the use of the instrument. This apparently simple method will be attended with some mortality, and should not be attempted for growths of any size. An incomplete removal would hasten their growth, while a radical removal might effect a cure.

Until recently it was supposedly inadvisable to remove any tumor of the bladder that was not suspended, but there is no good reason for be-

lieving that an early radical operation will not be quite as satisfactory in these cases as it would be for growth in some other organ. It is seldom satisfactory to attack these growths through a perineal incision, and this route has been practically discarded by surgeons.

If the neoplasm is in one of the upper quadrants near the dome of the viscus, dissecting the peritoneum intact from its posterior surface, the suprapubic incision exposing the bladder through the space of Retzius, gives a very good exposure.

In case the tumor has its attachment at or near the base, it is necessary, in order to do a technical and radical operation to open the peritoneum first and pack off the intestines and omentum as in resection of other organs, and then open the bladder through its peritoneal surface. It was not until we learned that the bladder had been accidentally opened without serious consequences to the peritoneum during abdominal operations, that we felt justified in deliberately approaching these tumors in that way. We have now removed tumors through a transperitoneal incision in nearly twenty cases, and in none of them have we seen the slightest soiling of the peritoneum. In four cases we have removed the quadrant of the bladder containing one or the other of the ureteral orifices, and have transplanted the ureter to another section of the bladder.

From the statistics given us by Watson, and from the histories of our own cases, we are led

to believe that it is always advisable to remove a section of all coats of the bladder wall.

The incision into the bladder is closed in a manner similar to that employed in closing the stomach or intestine after a resection. All of the coats are turned in, and the peritoneal surfaces approximated. No leakage occurred in any of our cases where the incision was made through the peritoneum, while some of the suprapubic cases developed temporary sinuses. The rapid and firm healing of the peritoneum probably accounts for the better results obtained with the former method.

It will not be necessary to establish drainage unless the prostate or urethra has been interfered with. In our experience patients have done better without a permanent catheter. Many of them will void their urine from the beginning, though some of them will require catheterizing for the first twenty-four hours at intervals of every two hours until they are rid of the clots of blood.

On account of the high mortality, unsatisfactory existence to the individual, and results generally, following complete removal of the bladder, we feel that it is seldom if ever advisable to recommend this radical procedure.

The advance and the progress in surgery in this field, appears to lie in an early cystoscopic examination and diagnosis in all cases presenting blood in the urine, and not in the very extensive operations done in the advanced cases.

## A CASE OF ENLARGEMENT OF THE PROSTATE

BY FRANKLIN R. WRIGHT, M. D.

MINNEAPOLIS

Mr. H. was referred to me by Dr. Peck, Nov. 10, 1908. The patient, a robust Norwegian, sixty-five years old, complained that he could not pass his urine. He gave the usual history of a man suffering enlargement of the prostate, viz., a period of years during which he had been compelled to get up four or five times every night to urinate.

About a year previously, his urine began to dribble away, and for ten months he had worn a rubber urinal. He had never suffered pain nor been troubled by frequent urinations. Examination of the abdomen revealed a globular mass

in the median line above the symphysis pubis.

Rectal examination: The prostate slightly larger than normal and at the upper border a small hard mass. A No. 20 catheter was passed without meeting any obstruction, and thirty-eight ounces of perfectly clear, normal urine came away.

Diagnosis of enlargement of the middle lobe of the prostate was made.

As the tumor could be distinctly felt through the rectum, I undertook on November 12th, under spinal anesthesia, to remove it by the perineal route. During the operation and before I had reached the tumor, I accidentally tore a hole an inch long in the rectum. This tear and

\*Read before the Minnesota Academy of Medicine, October, 1909.

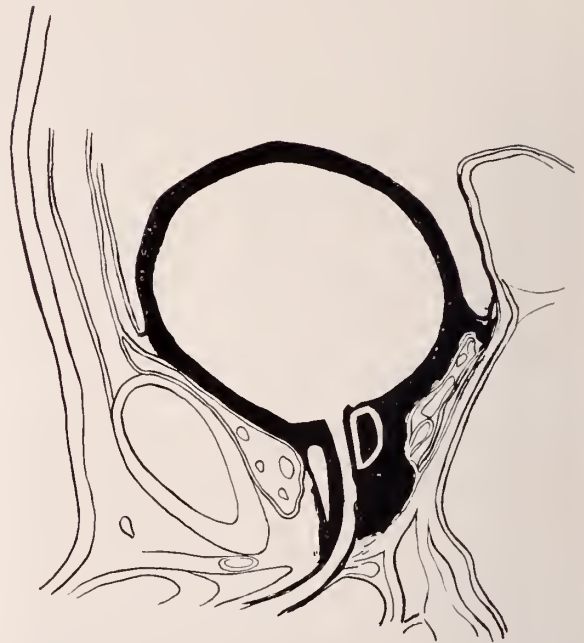


the perineal wound were closed, and the patient returned to bed. Ten days later the wound having healed by primary union, I opened the bladder from above, under chloroform anesthesia. The bladder-wall was much thickened. It was one-half inch thicker even when dilated with one quart of water, but was perfectly smooth, showing no trabeculae or saccules. There was no tumor present in the bladder, but close to the urethra and directly behind it, was a smooth round spot in the mucous membrane, the size of a dime.

A transverse incision was made with scissors across this surface, and using the finger as a dissector, a tumor weighing 150 grains was removed.

The tumor was apparently from the middle lobe, but it was impossible to say positively whether it came from the middle lobe or from the posterior border of one of the lateral lobes. It had developed externally to the internal sphincter, grown toward the bladder, crowded into the sphincter, and plugged the outlet of the bladder like a cork. The only time any urine was passed, was when enough urine had accumulated in the bladder to draw the sphincter away from this plug. This required thirty-eight ounces.

The patient began to pass his urine again through his urethra on the tenth day, and the suprapubic wound closed the seventeenth day after this operation. At this time his bladder contained one dram of residual urine.



The points of interest in this case are the small size of the tumor (150 grains), which completely closed the outlet of the bladder while at the same time it offered no obstruction to the passage of the catheter, and the smooth, even hypertrophy of the bladder-wall, which showed no trace of trabeculae or saccules.

I have made a sketch to demonstrate the position of tumor, which is purely schematic, but it demonstrates the size and position of the tumor.

## FOUR NEW CASES CICATRICAL STRICTURES OF THE ESOPHAGUS

By WM. LERCHE, M. D.,

ST. PAUL

Some time ago I reported a case of cicatricial stricture of the esophagus, with the description of my method of treatment by making incisions into the strictured portion through the esophagoscope, with instruments which I have devised for this purpose.

The case above referred to, upon which I operated about one and a half years ago, has been well since, and I have introduced large-sized bougies only every five or six months to be sure that no contraction takes place.

In this brief communication I shall report four new cases all caused by the drinking of lye

in solution. They all presented the greatest difficulty to the passage of any instrument, except Case 3, which was fairly easy; and in three of the cases gastrostomy had been offered as the only hope for the patients. They belong to the so-called impermeable strictures.

When I have succeeded in getting through the strictures in these five cases, and by the cutting method have been able to restore the lumen of the esophagus, so that the patients have no difficulty whatever in taking solid food, I feel that this method should be tried before resort-

ing to gastrostomy for the purpose of feeding or for retrograde dilatation.

*Case 1.*—H. L., aged five years, drank of a solution of lye three years ago. Six weeks later milk commenced to be regurgitated, and shortly afterward nothing would pass through to the stomach for a week or two at a time. This kept up for the following year and a half, during which period rectal feeding was used most of the time. During the last year milk has passed through quite readily, but nothing else.

Examination: Stricture met with at 14 cm. from the incisor teeth. Through the esophagoscope an opening admitting a filiform bougie was found underneath a fold of mucous membrane. A second stricture was found 3 cm. below the first, and was of the same caliber. Both strictures were cut, followed by dilatation. The patient can eat everything.

*Case 2.*—E. J., aged eighteen months, swallowed lye in solution six weeks before coming under my care. Four weeks after the accident deglutition grew rapidly more difficult, and the last day or two before I saw the patient, hardly any nourishment had passed down. Urine very scanty; child restless.

I measured out a small quantity of water, which the baby tried to drink, but nothing passed the stricture.

Examination: Obstruction met at 10.5 cm. from the incisor teeth. After considerable difficulty a filiform bougie was passed and the stricture dilated. The patient is well and has no difficulty in swallowing.

*Case 3.*—V. L., aged eighteen months, drank lye in solution seven weeks before coming under my care. Three weeks after the accident deglutition gradually became more difficult. The child could swallow only milk and water.

The stricture was found 17 cm. from the incisor teeth. Through the esophagoscope is seen a rather centrally placed oval slit, which admits a No. 9 French bougie. Incision followed by dilatation. The patient has now no difficulty in deglutition.

*Case 4.*—M. C. G., aged 50 years, drank of a solution of lye two years ago. Two weeks later solid food commenced to be regurgitated. Mucus in considerable quantity is frequently gulped up. He has had bougies introduced once or twice a week since two weeks after the accident occurred; however, the stricture has gradually contracted. He takes fluids and semisolids, but can

take no solid food. Obstruction is met with at 27 cm. from the incisor teeth. Seen through the esophagoscope is a narrow slit, somewhat to the left of the center in a sagittal direction. There is quite a dilatation above the stricture. Bougie, a boulie No. 16, French, passes through this stricture, but meets obstruction at 34 cm. and another at 37 cm. from the incisor teeth. Bougie No. 12, French, passes through these, but at 42 cm. it encounters an obstruction which is only passed after considerable difficulty.

Through the esophagoscope I have cut the upper stricture and dilated it, and I intend to cut the other strictures in the immediate future

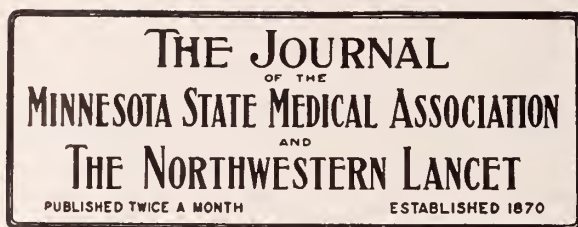
## PHYSICIANS LICENSED AT THE OCTOBER (1909) EXAMINATION TO PRACTICE IN MINNESOTA

### UPON EXAMINATION

Barksdale, Geo. H.	Northwestern, 1908
Caldwell, Jas. Phaon, Jr.	U. of Minn., 1909
Dahl, P. K.	Ft. Wayne Col. of Med., 1898
Graham, Archibald Wright	U. of Maryland, 1905
Hayes, Michael F.	U. of Minn., 1909
Meierding, Wm. A. (H)	U. of Minn., 1907
Neumann, Conrad A.	Northwestern, 1909
Olson, Wm. Paul	U. of Minn., 1909
Opp, Paul Alfred	P. & S., Los Angeles, 1908
Schons, Edward	Hamline, 1908
Simon, Geo. H.	Northwestern, 1909
Smith, Olive Ella (H)	Boston U. S. of M., 1909
Walker, Jas. Douglas	U. of Minn., 1909

### BY RECIPROCITY

Anderson, James C.	Detroit Col. of Med., 1895
Atkins, Geo. Leslie	Iowa State U., 1905
Bannen, Wm. Edward	Northwestern, 1908
Baskett, Geo. Terrell	U. of Mich., 1908
Bigelow, Samuel Edward	Baltimore M. C., 1904
Clark, Floyd Ferdinand	P. & S., Chicago, 1908
DeGraff, Elmer Bert	P. & S., Keokuk, 1888
Dolan, John Edward	P. & S., Chicago 1908
Fischer, Peter M.	Detroit Col. of Med., 1907
Hart, Bruce D.	Ind. Med. Co., 1906
Heise, Carl August	Rush, 1906
Hellwarth, Floyd Michael	Ohio. Med. Col., 1906
Hewson, Wilfred John	Northwestern, 1908
Hillebrand, Christian Fred.	Wm. U., Ger., 1868
Hollands, Wm. Howard	Hamline, 1908
Jones, Griffith Moses	P. & S., Chicago, 1905
Kendahl, Alfred Magnus	P. & S., Chicago, 1909
King, Edgar A.	Rush, 1895
Laney, Ronald L.	Ensworth Central, 1906
MacGregor, Murdock	Trinity Med. Col., 1897
Saam, John Gustave	Rush, 1908
Sykora, Frank Joseph Chi.	Col. of M. & S., 1909



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### WORK FOR YOUNG MEDICAL MEN

At the last meeting of the Minnesota Academy of Medicine, held in Minneapolis, Dr. Haldor Sneve, the newly elected president, read a short address which is not to be published, in which he made some very suggestive statements; and the one in particular which should attract attention, is the necessity of more original work by the younger medical men in the profession.

It is pretty well recognized now that recent admissions into medical societies, particularly those societies which demand a thesis, do not show very much care or interest in the preparation of new matter. Of course, there are applicants who are duly elected on the merits of their theses. But few men show that they have been following out a special line of work, and are able to detail it in an interesting way. The fact remains that many inaugural theses, and many of the papers presented before medical societies, are of no literary or medical value; and the time is coming when these societies must be recruited from the younger men in medicine, and to keep up the standard or to improve the standard of these organizations, a better class of medical literature must be presented.

The great fault is in the length of the papers

and the absence of any real important discovery or suggestion. Most men are satisfied to write out from their experiences their observations, which have been the observations of medical men for many years; but if the writer will develop a new point of attack, a new method of operation, a new idea in pathology, or a new method of association of symptoms and diseases, and, particularly, new methods of diagnosis, he will be contributing something that is of real value.

Dr. Sneve, in his address, criticised, in his gentle way, the attempt to force a medical-practice act upon the people, and he questioned whether the public have been protected from the pseudomedical institutes and the various fadists that have sprung up all over the country. The only thing that Dr. Sneve is willing to admit, particularly in the Minnesota law, is that it has raised the standard of medical education; but if it has done nothing beyond this, it certainly is a justifiable statute.

Perhaps these discussions, as to the advisability of any medical-practice law, are at least educational, and if a law contains a clause that assists or compels low-grade medical colleges to improve their standards and to follow in the footsteps of Minnesota, we are to be congratulated, for, in the end, the education of the public, and, particularly, the legislator, is the most important thing in this age.

It is to be hoped that in the future, and the immediate future perhaps, there will be a uniform medical-practice act that will cover all essential primary points, and thereby protect the public from the impositions of the quack. When everyone who is to practice the healing art is obliged to take a certain definite examination, he then is entitled to practice and employ the different means he may choose from a therapeutic point of view. If he is well grounded in the essentials, that is, in the fundamentals of medicine, it makes but little difference what his special methods may be. The question of medical-practice laws must be continually kept before the legislative bodies unless some one is clever enough to introduce a combined law in congress that will apply to all of the federal states and not interfere with their domestic arrangements. Then the acme of the medical-practice law would be reached.

### CORRESPONDENCE SCHOOL FOR NURSES

For the past two or three years the question of what shall be the solution of the problem of



training schools for nurses, has been agitating both physicians and nurses. The outcome, after much discussion, is still in doubt. When prominent nurses decided that it was essential that a system of registration be established, several states secured the passage of necessary laws for the guidance of themselves and others. The clapper of the new bell, which was to sound the call all over the country, was vigorous and vibrant, but, for some reasons, not wholly determined, the call for action was not obeyed with the expected alacrity. The result has been a muffling of the clapper, and the bell rings in vain. Strong opposition from prominent medical men sprang up in the centers from whence the original call came, and now the whole subject is again up for discussion.

The "three-year" demand on the part of hospital superintendents and trainers was adopted only to satisfy present demands. Although a sanction of the three-year plan was advocated, many of its supporters privately expressed the opinion that, given a satisfactorily educated applicant, two years are entirely sufficient to train a nurse for practical work. With this concession made in the minds of many, it was discovered that nurses who were given a year's training could go out among the poorer classes and supply a want that was present and urgent.

Many wage-earners are unable to pay twenty or twenty-five dollars a week for a nurse, but some are willing to pay from five to twelve, or even fifteen dollars for a nurse who has had sufficient instruction to make her competent and safe. The registered nurse opposes this plan, and with justice, on the ground that the semi-trained nurse will soon lose her identity as a "helper," and will set herself up as fully competent as her better trained sister, and will demand, and obtain, equally good wages. The only answer to this opposition is the capability, fitness, and skill of the nurse, the survival of the best, and the withdrawal of the incompetent and less intelligent woman.

On the heels of this discussion comes the "correspondence method of training," based on the assumption that intelligent applicants can better carry out the didactic part of their training by careful study at home, painstaking answers to examination questions, and the possibility of practicing upon well people in their own families, or getting practical instruction from friendly local physicians. If correspondence-school methods in other lines of business are not successful, why should they be in this?

The physician will at once protest against this form of training unless it is supplemented by clinical experience afterwards in a private or general hospital. A school of this kind, perhaps many others, is, and has been, a force in the East, and the promoters claim to have three thousand or more students. There is no way to prevent such a scheme unless the physician is careful in his selection of his nurses. Very often the lives of patients are dependent upon the care and skill of the nurse at critical moments, and, as every physician knows, an incompetent or inexperienced nurse is a real danger in a crisis.

Some modification of the time required to train a nurse must be adopted, in order to meet the many requirements that daily arise. Who is to determine this—the doctor or the nurse?

If the controversy which has arisen in the City and County Hospital in St. Paul had not come up this year, it was decided to inaugurate the one-year plan, in order to prepare nurses to meet the requirements of people of moderate means.

Nurses who have been in practice for years and who have been successful, admit that two good years of training is sufficient for a bright woman, and unless the nurse is possessed of the proper qualifications, no extended training will ever make her fit.

The situation is strained, and the State registration plan, in Minnesota at least, has not been so successful as its promoters had hoped.

### NEWSPAPER MENTION

In some of the country newspapers there are not infrequently items referring to the work of a physician in the hospital, to accident cases which come to special physicians, or to operative work done by physicians in a hospital. These items are perhaps more or less interesting to the community, but they are of a distinctly advertising sort, and in the end they do more harm than good.

Some time ago a few county societies adopted resolutions in which it was suggested that physicians' names be not mentioned in connection with any patient or any special work in the hospitals. It is not possible at all times to keep this information out of the papers, and it is not always to the discredit of the physician that these items occur. Some grateful patient or admiring friend will supply the newspaper office with these bits of information, and thus embarrass the doctor. Not infrequently people write up doctors and their work without considering the ill-feeling that it may cause in the profession. Innocent physi-

cians suffer much from this annoyance, and it is impossible at times to foresee or foretell what the results may be. A mild protest and gentlemanly and earnest explanation of the circumstances to the editor of the paper will usually stop any further comment of this kind. But where in the case of celebrated men these items are published broadcast, it is impossible to suppress them. Fortunately, this occurs only at long intervals and does no actual harm, although many simple-minded men will assert that these medical news items are deliberately supplied to the press, when as a matter of fact they are gleaned from various sources, and are published without the consent or permission of the physician or surgeon.

It may be very difficult for the man in the country who tries to live according to the code of ethics to overlook these apparent lapses, even though he knows that the news items are deliberately placed in the way of the editor of the paper, but it is safe to assert that the man who keeps out of this sort of thing will, in the long run, profit thereby. He will be respected and looked up to even by his colleagues who are under criticism.

The more these things are threshed out in the newspapers, the more difficult it is to keep the public from discussing the jealousies and bickerings in the profession. A safe and sound method is, attend strictly to your own affairs, do your business to the best of your ability, and merit the success that comes to you through hard, conscientious, earnest work.

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## REPORTS OF SOCIETIES

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### MINNESOTA ACADEMY OF MEDICINE

The November meeting of the Academy was held at the Minneapolis Club, Wednesday evening, the 3d, with thirty-six members and one guest present. President-elect, Dr. Haldor Sneve, was in the chair.

Reading of the minutes was dispensed with and the order of the program changed to accommodate Dr. E. H. Beckman, of Rochester, who had to leave early. Dr. Beckman read his inaugural thesis entitled, "A Plea for the Early Diagnosis and Early Surgical Treatment of Cancer."

Dr. Dunsmoor led the discussion, and he emphasized the point that early diagnosis and removal of cancer constitute the only hope of cure. He agreed with Dr. Beckman also that

the actual cautery is of value when by cooking the tissues beyond the incision of the removal it aids in preventing the return of the disease. As to the removal of the lymphatics: Of course no one can remove all the lymphatics, but we want to remove all that are affected so far as it is possible to do so, but if we removed them all we should in so doing remove our guardian angels against future troubles. He believes that multiple tumors of the breast are malignant in at least 80 per cent of the cases.

Dr. Bell said that the question of the early detection of malignancy is a very difficult one. The internalists have been struggling for years with the problem, but have made little progress in this direction. Treatment of these cases demands the use of the knife at the earliest possible moment. We may not get together with the surgeons on the treatment of gastric ulcer, but there is no difference between us on gastric cancer.

Dr. Moore thinks that obstruction of the bowel forms an apt comparison in this instance. Formerly 95 per cent of the total cases proved fatal, whereas now only 45 per cent are fatal. So in cancer the percentage of recoveries is increasing under surgery.

Dr. Mann believes that within our own knowledge and recollection the difference in mortality in cancer through early diagnosis and removal is quite apparent. In 1895, for instance, the mortality in cancer of the rectum was 100 per cent, while now there are a few recoveries after early removal. He has a personal knowledge of ten cases with one recovery. Cancer of the large bowel is usually too far advanced for operation before a diagnosis is made, while cancer of the tongue, which formerly was fatal, is now frequently saved by early diagnosis and removal.

Dr. Abbott thinks that a very important way by which to secure an early diagnosis is to get the medical men to work together with the surgeons and for each to see more of the other's work. Cancer is earlier diagnosed by surgeons than by medical men generally.

Dr. Sweetser pointed out that all the sins are not due to either the surgeon or the internalist, for the patients are often secretive about their ailments, and even other members of the family are not aware of it.

Dr. H. P. Ritchie went him one better and showed that sometimes neither is at fault, as in the case of a woman he cited. She discovered for the first time while bathing a fairly well de-

veloped tumor of the breast. She reported at once, the diagnosis was made, the breast removed, and microscopic examination revealed its malignancy although there has been no symptoms whatever to attract her attention.

Dr. White urged the resort to exploratory operation without hesitation in case of doubt, after other means of diagnosis have been exhausted.

Dr. Beckman, in closing, pointed out that the reason that operative treatment is so out of favor among the people is that in so large a number of cases they are so advanced before presenting themselves.

Cancer is rapidly on the increase, while tuberculosis is on the decrease, owing to the fact that in the latter the people are becoming enlightened and are taking extraordinary precaution against it. He made a strong plea for the dissemination of the truth as we know it concerning cancer, and the greatest help in its diagnosis and treatment.

Dr. H. P. Ritchie reported a case and showed the specimen of tumor involving one of the ureters. Six days after operation the patient became uremic. The wound was reopened, and a silver drainage tube was placed for the drainage of that kidney, and now, one month afterward, a water tight drain has been secured.

Dr. Haldor Sneve read his inaugural address as president, and the same was discussed by Drs. Dunsmoor, Armstrong, Moore, and Abbott.

A. W. Dunning, M. D., Secretary.

(Note.—Reference is made in our editorial columns to Dr. Sneve's address.—THE EDITOR.)

#### HENNEPIN COUNTY SOCIETY

The Society on November 1st met; 100 members present.

Dr. E. K. Green told of a fractured femur in a baby of nine months, and showed the apparatus used to hold the femur in place. The baby, now fifteen months old, was shown, that the physicians might see the perfect result obtained. Dr. Green stated that the extension was kept up for three and one-half or four weeks, and the cast kept on for about five weeks.

Dr. Bradley reported that the Library Committee had been considering the advisability of allowing other medical societies to use the library rooms for meetings, and made the following motion:

Moved and seconded that all local medical organizations of proper standing be allowed to use the library rooms, providing the same is agreeable to the management of the Donaldson Co.

Inquiry was made as to under whose direction the rooms would be under such circumstances; if they would be under the direction of the Library Committee.

Dr. C. H. Bradley: The Medical Club have had use of the rooms and also the Women's Medical Club; also the dentists have met here a few times. It is a question of policy whether this Society wants the other organizations to use these rooms or not. I think it a proper move.

Motion was amended that the names of the societies applying for use of the rooms be approved by the Executive Committee, and was carried.

Dr. Bradley: I was also instructed by the Committee to introduce the following motion:

Moved that the Homeopathic Society be invited to make use of the library rooms under the motion just carried. Motion seconded and carried.

Dr. Bradley placed in nomination the name of Dr. Douglas F. Wood, who presented proper certified transfer card, from Hanska, Minn. Dr. Jarl Lemstrom and Dr. Douglas F. Wood were elected members.

Dr. Bradley proposed the names of Dr. Colfax Borom and Dr. Stanley E. Kerrick.

The following papers were read:

"Pathology and Bacteriology of Poliomyelitis," with lantern slides, by Dr. H. E. Robertson; "Clinical Study of the Poliomyelitis Epidemic," by Dr. W. R. Ramsey, St. Paul.

C. H. BRADLEY, M. D., Secretary.

#### MOWER COUNTY SOCIETY.

The Society met at Austin on Nov. 12th, with a good attendance.

Dr. J. N. McCormack delivered his "Heart-to-Heart Talk to the Medical Profession." This address lasted two hours, but everybody listened with the utmost attention, and it is the unanimous opinion of all who heard him that Dr. McCormack has done our Society a great deal of good.

Post-graduate study will be started as the result of his visit in the near future. In the evening Dr. McCormack spoke on "Things About Doctors, Which Doctors and Other People Ought to Know." This lecture was given in the Methodist church to an audience of over one thousand of our most representative men and women. Everybody spoke of this address as one of the best lectures ever delivered in Austin. The public estimate of the medical profession was greatly raised.

Officers were elected as follows:

President, Dr. J. M. Hart, LeRoy; secretary,



Dr. A. N. Collins, Austin; treasurer, Dr. G. J. Schottler, Dexter, Minn.

O. H. HEGGE, M. D., Secretary.

#### THE STEARNS-BENTON COUNTY SOCIETY

The Society met in St. Cloud on Oct. 26th, with ten members present.

Papers were read as follows: "Some Experiences of a Country Doctor," by Dr. H. A. Pinault; "Diagnosis of Typhoid Fever," by Dr. J. H. Beaty; "Chinese Medical Principle and Practice," by Dr. E. R. Jellison.

The papers were thoroughly discussed.

Dr. J. N. McCormack addressed the members of the Society on Sunday, and spoke to a large audience at the Opera House from 3 to 5 P. M.

H. W. Goehrs, of Melrose, was proposed as a member.

J. C. BOEHM, M. D., Secretary.

#### CLAY-BECKER COUNTY SOCIETY

The Society met at Moorhead, on Oct. 25th, with eleven members present.

Papers were read as follows: "The Relation of Chronic Disease to Infectious Disease," by Dr. O. J. Hagen, Moorhead; "The State Meeting," by Dr. W. J. Awty, Moorhead.

Several visitors from St. Paul, Fergus Falls, and Fargo were present. An enjoyable banquet was given at the home of Dr. D. C. Darrow. Appropriate resolutions were adopted concerning the death of Dr. T. H. Egge.

E. R. BARTON, M. D., Secretary.

#### PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls, on Oct. 14th, with twenty-four members present.

Papers were read as follows: "Gastritis," by Dr. J. G. Vigen, Fergus Falls; "Enteritis," by Dr. L. A. Davis, Dalton; "Intestinal Obstruction," by Dr. A. C. Baker, Fergus Falls; "Observations along Medical Lines on a Trip Abroad," by Dr. O. Th. Sherping, Fergus Falls.

The meeting was a well-attended, enthusiastic, and profitable one.

O. M. HAUGAN, M. D., Secretary.

#### WASHINGTON COUNTY SOCIETY

The Society met in Stillwater on Nov. 9, with ten members present.

A paper was read on "Painful and Disabled Feet," by Dr. A. R. Colvin, St. Paul.

F. G. LANDEEN, M. D., Secretary.

## NEWS ITEMS

Dr. August Gronerud, of Bronson, died last month.

Dr. W. H. Aborn has moved from Hawley to Brainerd.

Dr. A. G. Belsheim, of Aitkin, has moved to Guler, Wash.

Dr. W. R. Hand has moved from Elbow Lake to Wendell.

Dr. A. M. Randall has moved from Underwood to Ashby.

Dr. R. M. Shaw, of Two Harbors, has moved to Michael, B. C.

Dr. J. H. Forbes, of Winnebago, has moved to Pasadena, Cal.

Dr. Norman B. Smith has moved from Minneapolis to Crookston.

Dr. D. E. Arnold, of Aberdeen, S. D., has moved to California.

Dr. W. E. Clark has moved from Frederick, S. D., to Aberdeen, S. D.

Drs. Fisher & Goetsche, have opened a hospital at Dickinson, N. D.

Dr. Einar Johnson has moved from Bagley, Minn., to Hillsboro, N. D.

Dr. A. T. Ishkanian has moved from Reliance, S. D., to Cannon Falls, Minn.

Dr. W. R. Newmarker has moved from Edgemont, S. D., to Columbus, Neb.

Dr. L. T. Francis has purchased the practice of Dr. W. A. Lumley, of Renville.

Dr. Grace C. Wightman, of Brazil, Ind., will move to Fargo and do surgical work.

Dr. Charles Van Kirk, physician at the Leech Lake Indian agency, died last month.

Dr. J. P. Dougherty, formerly of Wabasha, is doing post-graduate work in New York City.

Dr. D. H. Slippert, who formerly practiced at Fosston, is now located at Bellingham, Wash.

Dr. C. R. Sanborn, of Bemidji, was married last month to Miss Leila Stanton, of Pine Island.

Dr. W. G. Camerson, of Staples, is doing post-graduate work at the Philadelphia Polyclinic.

Dr. H. D. Dudley who recently moved from Winona to Medford, Oregon, has located in Seattle.

Dr. R. H. Beach, of Dickinson, N. D., was married last month to Miss Mabel Luke, of Pontiac, Ill.

Dr. S. J. Chelteen, of Lindstrom, has located in Minneapolis, with office at Lake and Bloomington.

Dr. D. M. Aronsohn, of Maxbas, N. D., has sold his practice to Dr. J. L. Livingston, of Inkster, N. D.

Dr. Elmer Nicholson has moved from Minneapolis to Brainerd, and is upon the staff of the N. P. Hospital.

A fund of \$10,000 has been raised by subscriptions in Duluth for repairs on St. Luke's Hospital in that city.

Drs. Butchart & Morsman have opened a hospital at Hibbing. The hospital will accommodate thirty patients.

Dr. J. J. Zaun, of St. Paul, has returned from Vienna where he has been doing special work for the past fifteen months.

A hospital has been opened at Gilbert with Dr. Francis in charge, the hospital belonging to Dr. C. W. More, of Eveleth.

Dr. Robert M. Burns, of St. Paul, State University, '05, was married last month to Miss Mary B. Spillane, of Rochester.

Dr. J. W. Bettingen, of St. Paul, and Dr. George C. Dittman, of South St. Paul, have gone to Europe for special work.

Dr. A. G. Sanderson, of Minnesota, has received the appointment of junior assistant physician at the St. Peter State Hospital.

Dr. H. V. King, of St. Paul, has received an appointment by the government to the Indian service. He will be located in Colorado.

Dr. George E. Peterson has moved from Murdock to Dassel, and is associated with his brother, Dr. A. C. Peterson, at the latter place.

Over \$17,000 have been raised for the new hospital at Montevideo. This is enough to justify the beginning of work on the building.

Dr. Harlow J. Boyd, of Alexandria, died on Nov. 21st, at the age of 57. Dr. Boyd had practiced about twenty-five years at Alexandria.

Dr. H. Amanda Johnson, of Minneapolis, who

has been doing post-graduate work in Chicago, is now on the staff of the Children's Hospital of San Francisco.

Dr. Emily Oberlin, of Owatonna, a recent graduate of the Michigan University, will take charge of the clinical laboratory of St. Mary's Hospital, Rochester.

"Dr." John Till has returned to America, and upon his arrival at New Richmond, Wis., was greeted by the acting mayor, the president of the business men's association, and a full band. Will wonders never cease?

Dr. Esther H. Young, State University, '93, died in Minneapolis last month. In accordance with her wishes the body was cremated at the new Lakewood crematory.

Dr. Arthur C. Strachauer, State University, '05, has been made assistant surgeon in the Royal Hospital of Berlin, Germany. He is the first American to be thus honored.

The old club-house of the Cottage Park Association at White Bear has been purchased for use as a sanitarium and hospital, to be conducted by the White Bear Hospital Association.

Upon the departure for Europe of Dr. W. E. Harwood, of Eveleth, the citizens gave him a rousing farewell banquet. Dr. Harwood will spend several months in post-graduate work.

Drs. M. W. Roan and A. M. Fisher, of Bismarck, N. D., and Dr. F. B. Strauss, of Richardson, N. D., have formed a partnership to take up the work of Dr. Roan and the late Dr. Matchan at Bismarck.

A new district medical society was formed at Dickinson, N. D., following Dr. McCormack's lecture there. The officers are as follows: President, Dr. V. H. Stickney; vice-president, Dr. H. A. Davis; secretary, Dr. J. P. Weyrens, all of Dickinson.

Dr. A. C. Amundson, of Cambridge, Wis., has translated S. A. Knopf's essay on tuberculosis into Danish-Norwegian, and will supply copies of the same at 15 cents each. This essay was awarded a prize by the International Congress for the study of tuberculosis.

Dr. W. S. Fullerton, of St. Paul, secretary of the State Board of Medical Examiners, has been appointed by the governor to represent Minnesota at a conference of the American Medical Association to consider measures to compel medical colleges of low standing to raise their grade of work.

Dr. R. G. Stevens, of Heron Lake, and Dr. N. J. Nessa, of Brewster, after spending six months in post-graduate work in Chicago, have formed a partnership under the firm name of Stevens & Nessa, and have located at Sioux Falls, S. D. Dr. Stevens is a graduate of the University of Illinois, '05, and Dr. Stevens of the University of Minnesota, '05.

The U. S. Clinical Surgical Society met in Rochester the last of October. The Society has a membership of only 37, and every member is a distinguished surgeon. They come from New York City, Boston, Philadelphia, Cleveland, Chicago, St. Louis, New Orleans, Kansas City, San Francisco, etc. Their annual meetings bring out almost the entire membership, and are surgical events of importance.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

PRACTICE FOR SALE

A practice in a good Idaho town is for sale cheap; pretty place to live in; collections cash. Write or call on Dr. L. N. Klove, 1502 20th ave. N., Minneapolis. T. S. Phone, 13492.

ASSISTANT PHYSICIAN WANTED

An assistant is wanted by physician and surgeon in northern Minnesota to do general practice. One able

to speak German or Austrian preferred. Personal application most satisfactory. Address G. N. Butchart, M. D., Hibbing, Minn.

FOR SALE

Maxwell, Doctor's Model, 20-horsepower of 1907. Extras: top with front and side curtains; 3 oil and 2 gas lamps, generator and tools. 3 tires nearly new. All for \$600 if taken at once. Address P. O. Box 314, Albert Lea, Minn.

PRACTICE FOR SALE

A rare opportunity for a young man who desires to establish himself in a growing and progressive town of 7,000 inhabitants in the northern part of the state. Practice paid me \$4,000 cash this year. This chance is available to the one who buys my office furniture and furnishings of private room adjoining. I must leave by Dec. 1st on account of sickness. \$300 cash takes it. Address R. C., care of this office.

FOR SALE

One of the best practices in a Minnesota town of 500 people for sale at a bargain. No competition. Will take doctor in partnership for the winter months in order to introduce him thoroughly. It will take \$2,500 to make the deal—part cash. Price includes complete up-to-date office outfit worth \$1,500, and location with introduction. Chance to earn part of it while getting the introduction. Address D. W., care of this office.

*For Sale.*—Drug store (snaps) with and without praccices. Also drug store positions anywhere desired in U. S. or Canada. F. V. Kniest, R. P., Omaha, Neb.

*Doctor,* if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Postgraduate Dep't., Tulane Med. College.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF SEPTEMBER, 1909

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF SEPTEMBER, 1909

STATE INSTITUTIONS.										
	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough
Fergus Falls, Hospital for Insane.....		6		1						
Rochester, Hospital for Insane.....	3									
St. Peter, Hospital for Insane.....	5	2								
Anoka, Asylum .....										
Hastings, Asylum .....										
Faribault, School for Deaf.....										
Faribault, School of Blind.....										
Faribault, School for Feeble Minded.....										
Owatonna, School for Dependents.....										
Stillwater, State Prison.....	1									
St. Cloud, State Reformatory.....										
Red Wing, State Training School.....										
Minneapolis, Soldiers' Home.....	5									
Totals .....	23	8		1						1



REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF A SEPTEMBER, 1909

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	4	1											1		
Anoka	3,769	4,053	5	1								1					
Austin	5,474	6,489	7			1											
Barnesville	1,326	1,566	0														
Bemidji	2,183	3,800	7			1									5		
Blue Earth	2,900	2,364	6	1				1					2				
Brainerd	7,524	8,117	10	*		1		1							2		
Chaska	2,165	2,085	2														
Chatfield	2,426	1,300	2														
Cloquet	3,074	6,117	10					2							1		
Crookston	5,359	6,794	12			1						1		1	1	1	
Detroit	2,060	2,149	6		1							1	1	1	2	1	
Duluth	52,968	64,942	94	4	1	7	1	1				1		6	26	3	
East Grand Forks	2,077	2,487	1														
Ely	3,712	4,045	3														
Eveleth	2,752	5,332	11					1				1		2	2		
Faribault	7,868	8,279	3												4	2	
Fairmont	3,440	2,955	0														
Fergus Falls	6,072	6,692	10	1												1	
Granite Falls	1,214	1,340	0														
Hastings	3,811	3,810	0														
Hutchinson	2,495	2,489	2												1		
Jordan	1,270	1,311	*														
Lake City	2,744	2,877	9	1											3		
Litchfield	2,280	2,415	2														
Little Falls	5,774	5,856	3														
Luverne	2,223	2,272	2												1		
Le Sueur	1,937	1,842	2	1													
Madison	1,336	1,604	2												1		
Mankato	10,559	10,996	25	2		1		1				1		2	4	3	
Marshall	2,088	2,243	4													1	
Melrose	1,768	2,151	4												1		
Minneapolis	202,718	261,974	271	30	4	12		9				6	5	11	34	11	1
Montgomery	979	1,281	1	1													
Montevideo	2,146	2,595	0														
Moorhead	3,730	4,794	7	1									2		1		
Morris	1,934	2,003	0														
New Prague	1,228	1,419	2														
New Ulm	5,403	5,720	4													1	
Northfield	3,210	3,438	1														
Ortonville	1,247	1,612	*														
Owatonna	5,561	5,651	8									1					
Pipestone	2,536	2,885	2													1	
Red Lake Falls	1,885	1,797	1												1		
Red Wing	7,525	8,149	11	1										1	1		1
Redwood Falls	1,661	1,806	0														
Renville	1,075	1,229	4	1												1	
Rochester	6,843	7,233	23													3	
Rushford	1,100	1,133	4		1	1						1					
St. Charles	1,304	1,238	1													1	
St. Cloud	8,663	9,422	9	2				1						2	1		
St. James	2,607	2,320	0														
St. Paul	163,632	197,323	212	21	1	10		6				21	7	21	20	1	
St. Peter	4,302	4,514	5			1										1	
Sauk Centre	2,220	2,463	2														
Shakopee	2,046	2,069	1	1													
Sleepy Eye	2,046	2,312	3													1	
South St. Paul	2,322	3,458	2	1													
Stillwater	12,318	12,435	6	2											1	1	
Thief River Falls	1,819	3,502	*														
Tower	1,366	1,340	2			1											
Tracy	1,911	2,015	1														
Virginia	2,962	6,056	13	3	1			1						3	3		
Wabasha	2,528	2,619	9											2			
Warren	1,276	1,640	3	1	1												
Waseca	3,103	2,838	3												1	1	
Waterville	1,260	1,383	2														
West St. Paul	1,830	2,100	0														
Willmar	3,409	4,040	6													3	
Windom	1,944	1,884	0														
Winona	19,714	20,334	22	1								1	1	1	6	1	
Worthington	2,386	2,276	3									1					

\*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS  
FOR THE MONTH OF SEPTEMBER, 1909

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	1														
Adrian	1,258	1,184	1														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	4	1												1	
Appleton	1,184	1,321	0														
Belle Plaine	1,121	1,301	3	1													
Benson	1,525	1,766	1														
Breckenridge	1,282	1,850	3														
Buffalo	1,040	1,124	1														
Caledonia	1,175	1,405	1													1	
Canby	1,100	1,505	0														
Cannon Falls	1,239	1,460	3										1			1	
Cass Lake	546	1,062	2					2									
Chisholm		4,231	13	1										1	3		
Dawson	962	1,056	0														
Delano	967	1,023	0														
Fosston	864	1,000	1														
Frazee	1,000	1,146	1														
Glencoe	1,780	1,805	1														
Glenwood	1,116	1,718	1														
Graceville	856	1,032	0														
Grand Rapids	1,428	2,055	*														
Hallock	805	1,014	1														
Hibbing	2,481	6,566	19		2										4	1	
Jackson	1,756	1,776	1		1												
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	1														
Kenyon	1,202	1,252	1					1									
Lake Crystal	1,215	1,221	2														
Lanesboro	1,102	1,041	1														
Long Prairie	1,385	1,256	0														
Madelia	1,272	1,290	1														
Milaca	1,204	1,319	0														
Mountain Lake		959	0														
North Mankato	939	1,129	0														
North St. Paul	1,110	1,400	2												1		
Olivia	970	1,019	0														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	3	1												1	
Pelican Rapids	1,033	1,095	1														
Perham	1,182	1,366	1														
Pine City	993	1,092	1														
Plainview	1,038	1,140	3														
Preston	1,278	1,320	1			1											
Princeton	1,319	1,704	*														
Rush City	987	1,041	3					1									
Rushford	1,062	1,040	1														
St. Louis Park	1,325	1,491	1														
Sandstone	1,189	1,589	*														
Sauk Rapids	1,391	1,552	0														
Scanlon		1,122	*														
South Stillwater	1,422	1,572	2												2		
Springfield	1,511	1,546	0														
Spring Valley	1,770	1,573	1													1	
Staples	1,504	2,163	1										1				
Two Harbors	3,278	4,402	8												3		
Wadena	1,520	1,868	0														
Wells	2,017	1,814	3	1		1										1	
West Minneapolis	2,250	2,530	*														
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	2												2		
Winnebago City	1,816	1,553	*														
Winthrop	813	1,031	*														
Zumbrota	1,119	1,129	0														
State Institutions			23	8		1								1		1	
Other parts of State	1,012,328	1,085,886	756	48	8	20	3	19	3			10	30	11	107	49	1
Total for State	1,751,395	1,979,658	1767	139	20	61	5	47	3			23	67	50	253	117	4

\*No report received. Health officer not doing his duty.

129 Still births and premature births, not included in above totals.

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## TUMORS OF THE CECUM\*

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Tumors of the cecum can be divided into two groups, benign and malignant. The more common of the benign type, while not tumors in the sense that they are new growths, are those occasioned by some form of infection:

First. A large amount of inflammatory tissue lying about an infected appendix or chronic cecal ulcer which has become buried in the wall of the cecum causing a mass that may be present for weeks or months. I have no doubt that surgeons other than ourselves have cut down upon such movable tumefactions expecting to find cancer of the cecum.

Second. The hypertrophic type of tuberculosis which gives rise to an infected tumor and often cannot be differentiated from cancer except with a microscope. Such tumors, however, require resection for their cure, and a mistake in diagnosis is not of vital importance.

Third. Diverticulitis, which is an infrequent cause of cecal tumor. The usual situation of this condition is in the sigmoid. We have, however, had one typical case in the cecum.

Fourth. Two strange forms of benign cecal tumors are those due to the so-called angioneurotic edema and to its first cousin, the localized hemorrhage in the intestinal wall of Henoch, which is seen most often in children.

This paper will be devoted briefly to the second group, *malignant tumors of the cecum*.

In most instances carcinoma of the cecum appears to have its origin close to the ileocecal valve, therefore involving the ascending colon, as well as the cecum. The ascending colon, averaging from seven to eight inches in length, has an insecure attachment to the posterior muscles in its retroperitoneal extent, and upon this the weight of the ileocecal coil is suspended. The head of the colon is extensively sacculated and of a large capacity, but gradually diminishes in size, and in the descending colon and sigmoid the sacculations are primitive. The cecum and appendix are completely invested by peritoneum.

Under normal circumstances, as shown by Monks, the lowest ileum lies in the pelvis, the last eight inches ascending from the pelvis to the cecum, and its terminal two inches is closely attached to the cecal side. (Fig. 1.) This attachment takes place early in fetal existence so that, as a rule, the base of the appendix will be found within three-fourths of an inch of the ileocecal orifice. The lop-sided appearance of the cecum is due to the sacculations which occur with greater ease on the free side. The terminal six inches of the ileum drains into the ileocolic group of glands and in cecal cancer should be removed. Occasionally a lymph-gland will lie in

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the meso-appendix, and if so lymph-drainage from the right ovary and tube may find its way into it through Cleido's ligament.

The ascending colon is supplied by the right colic artery, a branch of the superior mesenteric, anastomizing below with the ileocolic and above with the branches of the middle colic. The lymphatic drainage extends into the lymphatic glands at the base of the right colic artery and also into the ileocolic group. Therefore, for all practical purposes, malignant disease of the cecum and ascending colon may be considered as one. (Fig. 1.)

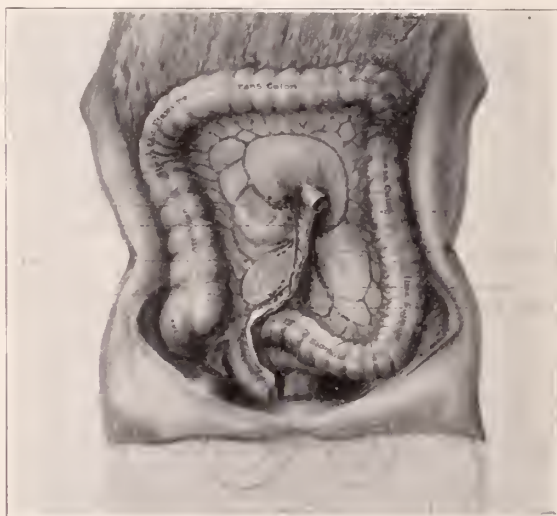


Fig. 1. Anatomy of the large intestine. Note the relation of glands and blood-vessels.

In estimating the feasibility of removing malignant disease of the cecum and ascending colon, the examination of the liver for embolic carcinoma should not be forgotten. In our experience hepatic secondaries have been a larger cause of contra-indication to radical operation in mechanically removable tumors than inoperable glandular metastasis.

By rectal touch the peritoneal sac can be felt anteriorly at the rectovesical fold. Carcinoma of any viscus in the peritoneal cavity may permit detachment of carcinoma cells which gravitate into the cul-de-sac and graft upon the adjacent sigmoid, giving rise to the characteristic nodules, which indicate the nature of the primary and possibly unlocated disease.

Taken as a whole the most important feature of surgery of the cecum and ascending colon, is the question of obstruction. The mortality of necessary operations can be closely measured by the degree and acuteness of the condition.

It happens, unfortunately, that in some cases of tumor the first important symptom is an attack of acute obstruction. The obstruction interferes with the vitality of the distended intestine, renders it difficult to obtain proper asepsis during operation, and, if resection is decided upon, there may be considerable trouble in uniting the distended with the collapsed segment of bowel. If the condition is acute the absorbed toxins depress the heart's action, and the abdominal distention interferes with the action of the diaphragm; if chronic, the interference with the progress of the food causes indigestion, nausea, gas, and abdominal distention. In suspected tumors careful examination should be made, in order to arrive at a diagnosis before the stage of obstruction is reached. In the majority of instances the patient will have symptoms upon which an early diagnosis of beginning obstruction can be made. There are, first, irregular bowel action, alternating constipation, and diarrhea with an unsatisfied feeling after stool, the movement failing to give complete relief; second, cramps in the abdomen attended with borborygmus, and the patient will nearly always be able to locate the site of the obstruction, as it will be found at a point where the internal pressure is most intense; third, on palpation the peculiar localized stiffening of the intestinal wall on the proximal side of the stricture gives a "tumor-like feel" to the examining fingers, and this appears and disappears, and is usually accompanied by gurgling of fluids and gases at the point of obstruction. Complete relaxation without anesthesia can usually be obtained in the hot-water bath, and a tumor, if present, can be detected. Patients with cecal tumor often have a profound anemia without any apparent good reason for it.

In proposed resection of the cecum the incision should be placed to the inner side of the seat of the disease. If the diagnosis has not been established, it is best to make a median incision, through which the hand can be used to explore the abdomen. A second working incision can be made at the most convenient situation. The utmost care must be taken to prevent infection from intestinal contents. If the proximal gut is greatly distended it will be best to make a temporary incision into it at a point where the mesentery is sufficiently long to allow its being well drawn out of the abdomen, and with a tube empty the contained material after the method of Monks. Treves states that emptying the distended intestine at a point above

the obstruction has reduced the mortality one-half in acute conditions.

The most important technical feature in the operation for cancer of the cecum, is the mobilization of the intestine for purposes of operation. The large intestine has a long mesentery. All of its blood, nerve, and lymph supply lies in the inner leaf of the mesentery and arises from the abdominal aorta and vena cava, or in that vicinity. It is true that the outer leaf of the mesentery is exceedingly short, if not absent, in the ascending colon, but as the outer leaf contains no structure of importance, it is only necessary to divide it, lift the colon from its bed and swing it on its inner leaf to the midline; therefore, the *sine qua non* for efficient operation is to locate the lesion and divide the peritoneal reflection to the abdominal wall, which mobilizes the part and allows it to be completely drawn outside of the abdomen, where it can be adequately surrounded with aseptic pads for clean work. (Fig. 1.) By holding the colon up to the light, the blood-vessels can be seen in the inner leaf of the mesentery, and caught, tied, and divided.

In separating the cecum and ascending colon, and ligating the blood-vessels, there are some structures that must be identified: first, the duodenum, a portion of which is bared in making a proper exposure of the vessels of the ascending colon. For this reason great pains should be used in the ligation of the right colic and right branches of the middle colic vessels, so

that the duodenum will not be injured or caught in the teeth of the forceps during operation (Fig. 2). Second, the right ureter must be identified and separated from adjacent growths of the ileocecal coil and ascending colon. (Fig. 2.)

In the removal of these malignant growths it will sometimes be found that a neighboring viscus has become involved and attached to it. If conditions are otherwise favorable this should not be looked upon as a contra-indication to operation. Five times in such cases we have resected portions of the small intestine, on two occasions resecting two entirely independent loops of the ileum, and, after completing the resection of the small intestine, removed the diseased colon with fragments of small intestine attached.

In our experience it has made very little difference by what method the anastomosis after resection was accomplished, so long as the opening was large enough. Granting that end-to-end intestinal union is ideal, the results of the lateral or end-to-side have been functionally just as satisfactory. We have usually made a lateral ileocolostomy by suture, leaving beyond the opening as small an intestinal pouch as possible. It seems to be quite immaterial whether it is made isoperistaltically or antiperistaltically, whichever way the intestine will come together without angulation or traction. Ileocolostomy is a safe operation compared to resection of the colon in continuity, because the contents of the ileum are fluid as contrasted with the solid or semisolid character of the material in the colon. (Fig. 3.)

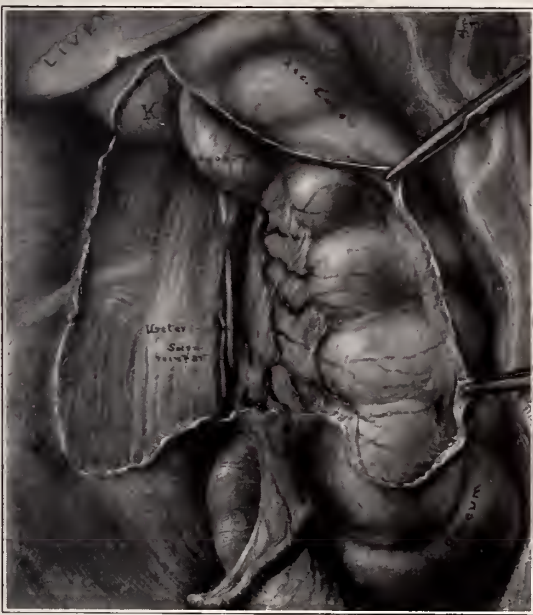


Fig. 2. Mobilization of cecum and ascending colon. Note duodenum and ureter exposed.

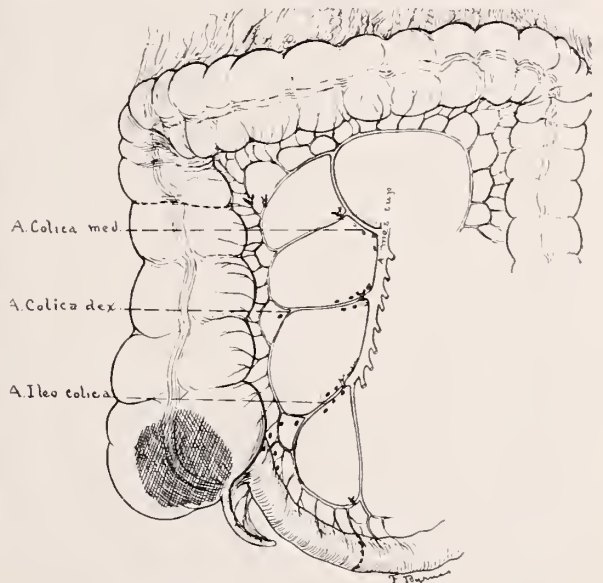


Fig. 3. Carcinoma of cecum. The dotted lines show lines of resection.



To recapitulate: The steps in resection of the cecum and ascending colon, are (1) a free incision through the right rectus muscle; (2) liberation of the cecum and ascending colon by an incision through the outer peritoneal attachment; (3) wiping clean, with a piece of gauze, the intestine and fat clean to the muscles as far as the superior mesenteric origin of the ileocolic and right colic vessels, which are tied at once enabling an accurate dissection of the mesenteric glands and fat; (4) clamping the hepatic flexure and lower ileum at proper points and removing the diseased segment; (5) sterilizing the exposed mucosa with actual cautery after ligation of the ends of the cut intestine; (6) closing with purse-string sutures, the bowel stumps; (7) ileocolostomy, usually lateral anastomosis; (8) closure of the mesenteric rent and the covering of the denuded surfaces with peritoneum. (Fig. 4.)

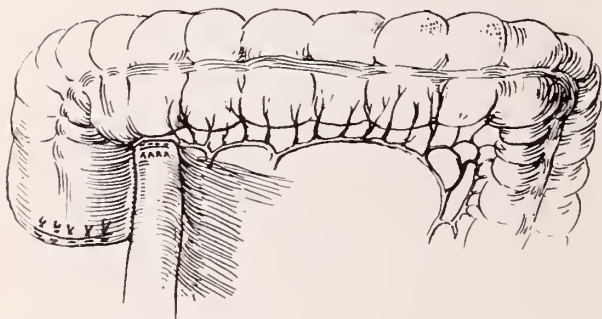


Fig. 4. Lateral anastomosis following excision of the cecum and ascending colon, between the lower ileum and the hepatic flexure.

The type of the disease is usually adenocarcinoma, and the ileocolic glands are nearly always affected. In some specimens the disease appears to have its origin in the appendix. In our cases, however, the appendix was generally so thoroughly involved as to make it impossible to arrive at any accurate conclusion on that point. Sarcoma of the cecum is seen occasionally. We have resected for this condition twice.

RESECTION FOR CANCER OF THE CECUM	
Number of cases.....	27
Male .....	19
Female .....	8
Age of oldest.....	72
Age of youngest.....	31
Average age.....	48
Patients of ages between 30 and 40 years...	7
Patients of ages between 40 and 50 years...	12
Patients of ages between 50 and 60 years....	3
Patients of ages between 60 and 70 years....	4
Patients of ages between 70 and 80 years....	1
Average duration of symptoms, 13 months.	

Operative mortality (11 per cent).....	3
Patients dying within 1 year after operation	1
Patients dying between 1 and 2 years after operation .....	3
Patients alive less than 1 year after operation	5
Patients alive 1 to 2 years after operation..	3
Patients alive 2 to 3 years after operation..	3
Patients alive 3 to 4 years after operation..	2
Patients alive 4 to 5 years after operation..	2
Patients alive 5 to 6 years after operation..	1
Patients alive 6 to 7 years after operation..	1
Patients alive 7 to 8 years after operation..	1
Number not located .....	3
Total .....	27

DISCUSSION

Dr. Archibald Mac Laren (St. Paul): I have enjoyed this paper, as I always do everything that Dr. Mayo presents. I have been especially interested in his suggestion of liberating and separating the gut so that we can get behind it from the outside. This is a new procedure for me, and I am sure a very valuable line of thought to all of us. The way I have usually done is to start from the inside, and I know from experience that this is not a good way. The practical way to proceed with all of these tumors, where it is necessary to make a resection of the intestine, is from the outside, and my next attempt shall be from the outside. My experience, which I am sure will be corroborated by all surgeons, has been very unsatisfactory with malignant growths of the large intestine, and in looking over my own statistics I find them very barren of good results, so far. Sixty per cent is infinitely better than anything that I have been able to get in resection of any portion of the large intestine.

I have seen a number of cases where it was necessary to make an intestinal resection, not knowing whether the disease was malignant or benign, and a microscopic examination proved them to be inflammatory tumors, benign in character. I have seen such conditions associated with a buried perforative appendix. The perforation in such cases is usually to be found on the posterior wall of the appendix where the abscess had worked back into the mesentery, giving a hard tumor, in which was contained a small quantity of pus.

As Dr. Mayo says, the tubercular growths are also often of an indeterminate character, and occasionally have to be placed under the microscope before one can tell whether they are malignant or tubercular.

More than once I have made the mistake of making an anastomosis too early in obstructive cases. This is a serious error, and much better results will be obtained if we will first drain the intestine, and at a later date do the anastomosis; then we can bring up the intestine, first relieving the fistula, and then doing the formal resection.

Dr. F. A. Dunsmoor (Minneapolis): The description of Dr. Mayo's method brought to my mind my first association with Dr. R. Arbuthnot Lane, of London, and the intrepid way in which he removed large portions of the colon. I was simply amazed upon my



first visit with him at the extent of his operations, in which he removed two-thirds of the large intestine for constipation; and in those cases he simply ligated the mesocolon before section. Apropos of what Dr. Mayo said about emptying the canal above the obstruction, I recall two recent cases of my own, in which the same method was employed, and sluicing out with normal saline solution with great satisfaction.

In reading the program for this meeting, I was led to look up my statistics for operations for cancer of the rectum and colon, and found a percentage of cure of 40 per cent, based on two years' limit without recurrence, thus making operations on the colon most satisfactory. In three of these cases, after removing the growth I made an enterostomy, connecting the distal end of the ileum directly into the sigmoid flexure, discarding the entire colon.

The doubt in diagnosis expressed by Dr. Mayo concerning some of his cases, was parallel to one of mine, in which I discovered, after removal, that the growth

was syphilitic, and often the question of malignancy of enlarged gland was only solved by the microscope.

Dr. Mayo's method certainly improves the previous technic employed in removing the cecum.

Dr. W. J. Mayo (Essayist): In regard to early mortality in these cases: It is quite considerably largely because of the attempt to get down upon the tumor from the inside and catch the blood-vessel in that way. If you will loosen from the outside you will be astonished at the ease with which it is managed.

The large intestine has the longest mesentery of any part of the intestinal tract. All of the blood-vessels run to the center of the abdomen. The minute the outer layer of the mesentery is cut, the whole intestine, with the glands and fat, comes off the muscle. By holding the intestine and inner layer of the mesentery up to the light you can see the blood-vessels and can catch and tie them accurately, and lift the diseased segment in one piece out of the abdomen.

## THE DIAGNOSIS OF SMALLPOX\*

By JOHN M. ARMSTRONG, M. D.

ST. PAUL

Since January 1, 1907, I have seen nearly 1,000 cases of smallpox. I say cases rather than patients suffering with smallpox, because there were in many instances none of the general symptoms, such as malaise, backache, frontal headache, chill, high fever, nausea, or vomiting, which, we are taught, usually usher in the disease. It was with difficulty, therefore, that many of those attacked could be convinced that they had the disease.

Ordinarily, smallpox calls to mind the picture of a veritable pestilence and a condition dreadful to deal with, while, as a matter of fact, the disease in its present endemic benignant form is much less to be dreaded, as far as mortality is concerned, than measles. Of the 978 cases I have seen occurring during the past two and one-half years there have been but six deaths, a mortality of about 0.6 of one per cent,—a lower record than in any other disease we quarantine.

The foregoing preliminary remarks as to illness and the benign form of smallpox now prevalent, were made for the purpose of paving the way for the statement that the diagnosis of this disease must often rest wholly upon the objective lesions of the skin.

The history of illness preceding the eruption, as narrated by the patient or family, is only of value when there is one; but in many instances,

as said before, there is no history of illness, so that while one may often make a provisional diagnosis of smallpox before eruption occurs, in the end our diagnosis is made from the eruption, and the history when present is but corroborative of the signs conveyed by the senses of sight and touch.

The description of the skin lesions of smallpox, as ordinarily found in our text-books, is that of the lesion in full maturity, that is, after it has reached the vesicular or pustular stages, and, unfortunately, the illustrations accompanying the text in most instances depict the same condition. In order to arrive at a correct diagnosis it is necessary that one should have a clear picture of the changes which have taken place and the history of the evolution of the smallpox pustule. The eruption usually appears on the second or third day of the history of the illness, provided such a history is obtained, and begins in the form of hyperemic macules about the size of pin-heads and surrounded by a faint inflammatory areola; they are not palpable, although they become papular, hard, and slightly raised during the next few hours. The papule has a flat top, which is quite characteristic, as is the shotty feeling, that is of such diagnostic value. At this time, then, we may already have three diagnostic points, of which one is the history, which may be negative, while the other two are always present. However, the inflammatory

\*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

areola and the flat top of the slightly raised papule are best seen on the neck and body, while the shotty feeling is at this time more particularly marked on the forehead and wrists. And it is possible to make a correct diagnosis at this early stage. This is when the eruption is first observed by the patient, and if the patient is not very observant it may be twenty-four hours after the first appearance before the rash is noticed. It is this inattention of the patient that leads me to believe that the rash may have appeared on the second or third day, instead of on the third or fourth. As health officer I have rarely been called to make a diagnosis until the eruption was at least twenty-four hours old, unless there has been a previous patient in the same family or house. In twenty-four hours the papule has grown to the size of one-sixteenth, and possibly one-eighth, of an inch in diameter, is readily palpable, is under the epithelial layer of the skin, is raised well above the surface, and is still hyperemic and of a rose-pink color. The best description that I can give of its color is, that the rose has a whitish cast and presents a waxy appearance. The top of the papule now presents in the centre of its flattened surface a small depression about the size of a pin-point, as if wax had been indented and slightly pushed in when not quite hard.

This depression is what I understand by the term umbilication, and is distinctly of diagnostic value, although it does not occur in all lesions. It can be seen easily with the unaided eye, when looked for, and better by reflected light or by looking at the lesion at an angle rather than directly at it. It can best be seen, however, with the aid of a lens. As a rule the smallpox papule soon loses its inflammatory areola, and when this does not occur it is contrary to the majority of my observations. The areola, however, when markedly present, is more scarlet than the papule itself. The papules at this time have just begun to itch, and are still discrete. However doubtful the diagnosis of the disease has been previous to this stage there is now no excuse for not making a positive diagnosis. The eruption of variola does not appear all at once, as is usually stated, for as many more lesions can be seen on the third day as on the first and second. This, of course, is contrary to the usual statement. They are all, however, of about the same size and same state of evolution at the same time, although some precede the others, and those where the skin is hard and thick are retarded in their evolution, while

those on the face evolve the most rapidly. A smallpox lesion is always round.

I have already stated the points of diagnostic value in the early diagnosis of smallpox, and I should like to say something as to the lesions after the papular stage. On the third day the papules have become about one-eighth to three-sixteenths of an inch in diameter and are raised nearly one-eighth of an inch above the surface. The top begins to lose its pink color and becomes whitish. This is the vesicular stage, but the vesicles are more real than apparent, as they cannot be broken by rubbing. This strength and hardness is attributable to their being deep-seated and multilocular. In fact this hardness is characteristic of the smallpox lesion in all its stages. They are still flattened and umbilicated. As the vesicle pustulates the top becomes a dull, dirty pearly-white and dome-shaped, and the red is more and more displaced by white, until finally it consists of but a narrow ring about the base. The lesion never loses its round shape, although several contiguous ones may become confluent, and it never becomes very soft, even when completely distended with pus.

About the fifth to the seventh day the lesions begin to dry up. The centre becomes sunken, and a hard dry scab forms, spreading from the centre toward the periphery. When this lenticular or cone-shaped scab is completely formed it falls off, and desquamation is complete. Sometimes this scab is of a translucent, dark-red color, and as hard as horn, so that the term "hornpox" applied to this benign smallpox is not inapt. The scab is always thicker in the center than at its periphery.

It is the beginning of scab-formation that gives rise to the secondary umbilication usually depicted in text-books and called the umbilicated stage. While, of course, this is of diagnostic value, still, if one had waited for its production, a diagnosis would not have been made until the patient had gotten over the worst of his attack and was well along the road to recovery, and after every one coming in contact with the patient had been exposed to the disease for the past eight or ten days.

The lesions of smallpox are not necessarily numerous, as I have seen cases presenting a typical pre-eruptive history with only one or two skin lesions. Such cases, and even those presenting more numerous lesions, seldom have a secondary rise of fever in the pustular stage. Such secondary fever, it seems to me, must be

due to pus-infection. Variola sine eruptione undoubtedly occurs. I have seen such cases with typical general subjective symptoms in families where several members had well-marked eruptive cases. I have tried to produce vaccinia in three such cases but was unsuccessful.

The severity of preliminary pre-eruptive symptoms does not bear a constant relationship to the severity of the eruption. As regards the pre-eruptive illness, it should not influence one's diagnosis too much, and one is apt to diagnose many conditions, especially the gastro-intestinal type of influenza. As I said, many smallpox patients are but slightly ill. I have seen the temperature rise as high as 102° F. in chicken-pox. This is exceptional, however, while in smallpox with illness the fever invariably rises to 103° F. and very often to 105° F. The fever drops with the appearance of the eruption in smallpox and in mild cases it has usually disappeared by the second day of the eruption.

A good general diagnostic point is the history of a successful vaccination with characteristic scar. Smallpox rarely occurs in vaccinated people. Only 116 out of 978 patients, or 11.8 per cent, ever claimed to have been successfully vaccinated; over half of these could show no evidence of it; and in many of the others the scar did not seem to be characteristic, while some were vaccinated during the incubation-period of the disease. Smallpox has an incubation-period of twelve to fourteen days, usually twelve, and vaccination performed during this period may produce vaccinia and not abort the smallpox infection already present. An interesting case has recently come under my observation. A boy was reported suffering with smallpox and was removed to the smallpox hospital about the third day of eruption on January 22d last. The rest of the family of five were vaccinated with the exception of the father, a man of 60 years of age, who carried on his left arm a typical vaccination-scar, due to vaccination when five years of age. Since that time and before 1884 he had unsuccessfully attempted vaccination twice. In 1884, when 35 years of age, he contracted smallpox in Sioux City, Iowa, and still presents a few scars in evidence of it. He stated that he was quite ill at the time. Ten days after his son was removed to the hospital he was taken ill with pains all over his body, headache, vomiting, and loss of appetite, and was confined to his bed, but, worst of all, according to his idea, was his inability to enjoy smoking. On the morning of the third day of his illness

his temperature was 102° F. with two papules on his forehead and but five on both forearms. A diagnosis of smallpox was made, and he was sent to the hospital. The next day more lesions were apparent, particularly about his ankles, and these ran a typical course, though the vesicular stage almost merged into the final stage of crust formation, and the lesions were more superficial than usual, a course that is not uncommon in very mild cases of the disease. If one attack of smallpox may not protect against another, how then we expect vaccination to protect in all cases?

There are some clinicians who would have it that this mild type of smallpox is not real smallpox, "certainly not like the smallpox we used to have," and there are others who on account of its mildness think it must be chicken-pox. This is a mistake, for mild cases have always occurred, as reference to the old text-books will show.

A close observer, however, will readily distinguish at once between varicella and variola. In the first place the period of incubation of varicella is longer than that of variola, perhaps averaging seventeen days, though this is of little value in diagnosis. In addition, the pre-eruptive symptoms are always milder than those of smallpox, and the fever seldom runs over 102° F., and usually not much over 100° F. If chicken-pox vesicles have a preliminary macular stage, which, of course they must, it is of very short duration, because vesicles may often be seen at the time the eruption is first noticed. The evolution of the chicken-pox vesicle is very rapid, and when one sees a case of varicella the lesions are found in all stages of evolution, macules, papules, vesicles, raw spots where vesicles have been rubbed off, and crusts. It is said that in chicken-pox the lesions occur in distinct crops, but from my experience it would seem also as if some lesions evolved quicker than others and thus seemingly give this appearance, while other lesions apparently do not complete their full cycle of development. My experience with chicken-pox, however, has been less extensive than that with variola. If one looks at a chicken-pox papule with a lens, he will invariably see a small yellowish vesicle at its summit, providing it has not already been rubbed off, and its top is not flat or umbilicated as I have described the variola papule, nor is it deep-seated, or shotty to palpation, but superficial. The chicken-pox vesicle is straw-colored, unilocular, and is covered by a thin epithelial cov-



ering, and so superficial that it is easily brushed off with the finger, which becomes wet from the escaped serum. When the vesicle has been punctured it becomes flattened, and if any of the thin layer of epithelial covering is left it forms a white, wrinkled layer, tending to dry about its edges and center, which gives the idea of umbilication, corresponding to the secondary umbilication of the smallpox pustule already described. Moreover, the patient with varicella will present lesions, not only in all stages of evolution at the same time, but of all sizes from pin-head to one-half inch in diameter, very often when fully formed.

The vesicle of varicella is much more often surrounded by an inflammatory areola than that of variola, and the vesicle when fully formed constitutes practically the end of the evolution of the lesion, as pustules seldom occur unless there is infection. The vesicle is as often oval or slightly irregular in outline as round. In general, the lesions of varicella are more numerous on the covered surfaces of the body, while those of variola are more numerous on the exposed surfaces, and those parts subject to irritation. However, this is not invariably true. Smallpox pustules are seldom found in the hair of the scalp, while that seems a favorite site for those of chicken-pox. It is a mistake to suppose that lesions of varicella never occur on the palms of the hands. I have seen palmar vesicles many times, and in two cases have seen them on the soles of the feet. In both of the last cases the eruption was semiconfluent, and both patients were recovering from scarlet fever when the varicella lesions appeared. Perhaps the disturbed condition of the skin tended to make the eruption more general. The palmar lesions of varicella are as superficial as those of the rest of the body. One must regard palmar lesions as unusual, however, in chicken-pox, while they are almost the rule in smallpox.

Varicella is generally a disease of the first decade and of the early years of the second, but it is not uncommon in adults. I have seen at least a dozen cases in adults, and the disease presents the same picture as in children. One adult, male, white, 42 years of age, had a confluent case, the only case of this kind I have ever seen. Two of his children had it at the same time. On brushing my hand over his groin it became as wet as if I had moved it over a wet cloth. This was due to the breaking of the vesicles. I have seen five cases of varicella in adult male negroes, three of them were as black as the proverbial

ace of spades, yet the diagnosis presented to difficulties.

I can see no reason why it seems necessary in all articles on the diagnosis of smallpox to mention and differentiate measles, as the symptoms of the two bear no resemblance whatever. As to the preliminary rash about the groin, thighs, and axillæ, which sometimes occurs in variola a day or two preceding the papular eruption, I can say but little. It is said by some to occur more often in severe types and epidemics of smallpox. At any rate I have seen but four such cases, and none of these eruptions looked like that of measles.

A condition which may cause some difficulty of diagnosis, if contrasted with a variolous eruption of but a few hours, is German measles or some toxic erythema. The lack of a history of more than one day's illness and the general nature of the eruption from the start, the darker color and the macular eruption showing on the hard and soft palate and hands, together with its evanescent character, ought not to make a differentiation difficult, although occasionally these rashes may be palpable on the wrist. The enlarged chain of cervical lymphatics may be of service in the diagnosis of rubella in children. These rashes more readily disappear on pressure anemia than that of the early stages of the variolous eruption.

Acne, bromide, iodide, and antipyrine eruptions might be mistaken for variola, but a careful history and examination of the lesions, I think, will invariably rule them out. Croton oil applied to the skin often causes pustules not unlike smallpox but the history, the quick evolution of the pustule, the appearance of the pustules only where the liniment containing the oil was applied, are factors on which to base the differential diagnosis.

The bite of the small black fly or winged red ant, prevalent during the fishing season in late summer and autumn, produces on some skins a papular eruption resembling variola, but the history, lack of umbilication and evolution of the lesions, together with their location, differentiate them.

Papular and pustular syphilides often resemble variolous lesions. I made a wrong diagnosis in such a case due entirely to carelessness of the history-taking and lack of proper observation. This occurred in a married woman who had been suffering from pernicious anemia for the past four months, and the possibility of a syphilitic infection never occurred to me, as she

had been confined to her bed all that time. I jumped at a conclusion, thinking perhaps that the other condition had somewhat changed the appearance of the lesions. Fortunately for me, a short examination of the husband a few hours later cleared up the diagnosis. In addition to the history and other signs of syphilis the course of evolution of the lesions is of great importance; the color also, as specific lesions soon become darkened and assume the so-called "raw ham" tint. There is no itching as a rule in syphilis, and the lesions are always more or less scaly.

When pressure is made on them, although the red inflammatory color is driven out, a brownish stain remains. Pustular syphilides are more apt to be confounded with the late stages of variola than the earlier and I have seen them showing an appearance of that of the secondary umbilication of the smallpox pustule. Sometimes instead of leaving a depressed scar, the site of the variolous lesion will become raised, which lesion, I suppose, is somewhat of the nature of a keloid and may closely resemble the papular syphilide. This is especially apt to occur on the face.

That syphilis is a great imitator of other conditions I have had strongly impressed upon me at least half a dozen times when such cases have been confounded with variola. A careful examination, however, I am sure, will always enable one to differentiate between the two diseases. Lesions of the mucous membrane occur in smallpox and chicken-pox, as well as in syphilis. In smallpox and chicken-pox the changes in the mucous membranes do not materially differ from those of the skin, while in syphilis we will encounter mucous plaques. Syphilis may occur on the palmar surfaces of the hands and feet also, but here my experience shows that they are not always round as in smallpox, and that they are usually flat and have the brownish coloration rather than the redness of acute inflammation of the early variolous lesion, or the dark red color of the variolous scab in the late stage. As the smallpox lesion is under the epidermis, and as the skin on the palms and soles is so thick as to prevent its reaching the surface, it dries *in situ*, resembling a blood blister. If the epidermis is incised or scratched off, the dark red-brown, flat disc that remains of the lesion can be removed in one piece.

Pompholyx may somewhat resemble palmar variola vesicles, but ought not to be mistaken for them.

As to hemorrhagic smallpox, or, better per-

haps, toxic smallpox, I have seen but three cases, possibly a fourth, and as all three differed in type somewhat I shall simply name the varieties. First, true hemorrhagic smallpox, that is, a variolous purpura and death occurring before papules have formed. Such cases are rare and the history of the preliminary illness, exposure, presence of an epidemic, and period of incubation should have great weight in making a diagnosis. A history of previous vaccination, unless recent, does not play apparently a very important role in this variety of the disease, as the infection may be of such severity that all resistance of immunity is overcome. I should judge that the differentiation of this condition from hemorrhagic measles, meningitis with purpura and some of the severe toxic purpuras, especially those due to streptococcal infection, would be difficult, and it is a question whether a concomitant streptococcal infection may not play a considerable role in *all* toxic cases of variola. The other two hemorrhagic types present no particular difficulties of diagnosis, if the possibility of hemorrhagic smallpox be kept in mind. In one type the papules become hemorrhagic and in the other the hemorrhages into the lesions occur in the pustular stage of the disease. In the last two types one has the typical eruption and history for diagnostic purposes and the hemorrhagic complication in addition. An early and progressive enlargement of the liver may be of some importance as a confirmative diagnostic symptom in this first type of toxic smallpox.

Of the three cases of this terrible type of variola which I have seen, all died. The case of the first type occurred in an old soldier and was seen only after death, but the diagnosis was confirmed by the finding of five other cases of the ordinary type of the disease in the same household. Of the other two cases, one, an unvaccinated male, 19 years old, had very few lesions, which became hemorrhagic in the early papular stage; death in stupor followed twenty-four hours after the appearance of the eruption, apparently of toxemia. The third case was that of a woman with a confluent eruption who was confined during the vesicular stage. She died the third day after confinement, apparently of exhaustion and loss of blood, having had hemorrhages from the uterus, rectum, stomach, nose, and ears. A few of the lesions on the abdomen became hemorrhagic. The child, a girl, developed a smallpox eruption of the ordinary type the sixth day after birth and recovered.

# THE TUBERCULOSIS PROBLEM\*

By J. W. BELL, M. D.

MINNEAPOLIS

Tuberculosis is the most firmly entrenched disease afflicting mankind; its control and extermination the most important sanitary problem of the age. Tuberculosis is emphatically a disease of all times, all countries, all races. No climate, no latitude, no occupation, no combination of favoring circumstances affords perfect immunity.

It is evident that a disease so firmly entrenched can be dislodged only by a prolonged and carefully conducted campaign, the duration and successful issue of which will depend largely on the wise generalship of those in command. We should aim to accomplish the object of the Anti-tuberculosis Crusade,—the prevention, control and final extermination of tuberculosis, by means of the most direct and efficient methods, in the shortest space of time, and with the minimum expenditure of money.

The tuberculosis problem in this state consists in devising means and measures to prevent the further spread of the disease among 2,000,000 people, and the control and care of 15,000 persons suffering from active tuberculosis in some form; of which number 2,161 died during the past year. It is evident that three vital forces are necessary to successfully cope with the problem,—education, legislation and money.

Measures to control and exterminate tuberculosis primarily divide into, (1) Measures to prevent the further spread of the disease, (2) Curative measures.

Preventive measures consist of (a) Measures to prevent infection of the individual from birth, (b) Measures to strengthen the individual and increase his powers of resistance.

Infection comes primarily from two sources,—the human being, and the tuberculous cow, and practically through two channels, the respiratory tract and the digestive tract, including the tonsils, consequently our attention should be focussed on the primary sources of infection, and our efforts directed to guarding the channels of infection.

The pioneer work of the crusade should be the education of the masses, young and old, especially the young. The educational awakening of a state is the first step, but it must not halt with the awakening: the people must be kept awake. Every available agency should be utilized to

spread the gospel of relief,—the press, concise literature, the platform, the school, the church, the labor union, the insurance company, the traveling and permanent exhibit, etc. The direction of the various agencies named should be largely the work of the state and local anti-tuberculosis associations. Without stopping to discuss the merits of these different agencies I desire to especially emphasize the value of the school in reaching the child and the home. Ten out of eleven of all children in the United States spend seven years in the public school. If the hygienic educational work in the school is well done during these years it means a permanent set of convictions and habits for the child which will guide him the remainder of his life.

## LEGISLATION

Uniform laws should be enacted in the various states authorizing State Boards of Health to institute and enforce compulsory notification and registration, also thorough disinfection. Fortunately our efficient State Board of Health is now clothed with that power, and we are gradually reaching the coveted period when the penalty clause should be enforced for non-reporting of cases of active tuberculosis. Compulsory notification is a delusion unless strictly enforced.

Uniform laws should be enacted in the several states requiring state wide school inspection. Tuberculosis, through compulsory notification, is designated as one of the contagious, communicable diseases, hence, it should, under proper school inspection, receive the same consideration as the other contagious diseases. If legislators, educators, and school authorities understood the value of school hygiene and school inspection, as medical men do, state wide school inspection would be the rule, rather than the exception. Tuberculosis will never be controlled, much less exterminated, until the protection of the child is given more careful consideration. The success of the New Jersey Association in influencing the State Board of Education to place a chart of tuberculosis aphorisms in each of the eleven thousand school rooms in the state, also a circular in the hands of each teacher, should encourage us.

Taking the 1906 census figures we find the death-rate from tuberculosis 164 per 100,000 population and the number of deaths during

\*Read before the Goodhue County Medical Society, October 5, 1909.



1906, 138,000. At this rate something over 5,000,000 people now living are destined to die of tuberculosis. Prof. Fisher found the money cost of tuberculosis including capitalized earning power lost by death to be \$1,000,000,000 annually; of this amount \$440,000,000 per annum falls on others than the consumptive. From the above figures, are we not justified in asking the state to appropriate money generously for the purpose of controlling the disease. Pennsylvania has appropriated over two million dollars to stay the ravages of tuberculosis.

Under the head of control and curative measures, I would suggest the following, as the most practical, efficient, and economic plan for dealing with tuberculous patients.

1. Compulsory notification and registration of all cases.
2. Dispensaries for detection, diagnosis, and treatment.
3. Sanatoria for the incipient and moderately advanced cases.
4. Hospitals for the care of advanced cases.
5. Home treatment, day and night camps
6. Farm colony.

Personally, I believe the control and eradication of tuberculosis in this state and nation is absolutely impossible without state control of tuberculous patients, which means compulsory notification and registration of all cases, also compulsory disinfection of premises following removal or death. So-called voluntary notification is a delusion and snare, largely responsible for our failure to influence either the morbidity or the mortality of the disease. If the authorities are to check the spread of tuberculosis they must have knowledge of every distributing center, they must know the location and environment of each patient. The health authorities should endeavor to carry out registration with as little publicity and annoyance to the patient as possible.

The dispensary is the most efficient agency we possess in dealing with tuberculosis and should be either a municipal or county institution. It should be the center of all anti-tuberculosis activity within a given district. Tuberculosis is so largely dependent on environment, and is so frequently a house infection, it should be the aim of the physician in charge of the dispensary, not merely to treat individual patients, but to trace them to their homes, to locate the tuberculosis nests, to clean them out, and thus prevent further spread of infection. The dispensary should be a place for diagnosis,

treatment, information, notification, and a general clearing house, from whence patients are directed to the sanatorium or hospital as the case demands. The dispensary is invaluable in locating tuberculosis patients, and reporting the same to the health authorities. R. W. Philip, of Edinburgh, Scotland, states that during the first year of compulsory notification in that city 50 per cent were notified by the municipal dispensary. Again the dispensary serves a most important purpose after notification. Through the visiting nurse the condition of the patient, his wants and absolute needs are disclosed, and relief furnished. The county dispensary, connected with the county tuberculosis hospital, will prove a valuable agency in dealing with tuberculosis in the rural districts. There patients can secure careful physical examination, supplemented by an examination of the sputum, and in obscure cases, have the benefit of one of the tuberculin tests properly administered. No dispensary, municipal or county, is complete without one or more trained visiting nurses. In brief, the dispensary locates the tuberculosis patient, selects the incipient case for the sanatorium, the advanced case for the hospital, and, through the visiting nurse, furnishes relief to the needy ones.

In my judgment, the sanatorium, especially useful in caring for incipient cases, has, in the past, been an over-estimated agency, and the dispensary an under-estimated one. Fortunately, we have now reached a point where we see clearly the limitations of the several agencies employed, and find that in a comprehensive program, each one constitutes an important link.

The annual report of our State Sanatorium shows there were 184 patients admitted during the year ending Jan. 1, 1909, representing 54 counties,—58 of the number remaining at the end of the year. Eighty-six per cent of the incipient cases were apparently cured, seventy-five per cent of the moderately advanced cases were arrested, and sixty per cent of the far advanced cases were discharged, improved. This is an exceptional showing for the first year, and speaks well for the superintendent of the institution (Dr. J. W. Marckey). In this connection it is a pleasure to record the fact that one of our large insurance companies is about to erect a sanatorium for the treatment of tuberculosis among its employees and policy holders. The educational value of the sanatorium should never be over-looked in forming an estimate of its value.

The hospital for advanced cases is the imperative need of the hour. The advanced case, especially the careless consumptive is the dangerous one; he it is who infects the house and those about him, and is responsible for the loss of one member of the family after another, in the years that follow. Flick claims that if we could isolate all cases within three months of death, it would, in time, mean the eradication of tuberculosis; this, I seriously question. The county hospital, inexpensive in character, suitably located, and so arranged as to safely care for the moderately advanced as well as the far advanced cases, also having attached a well equipped dispensary, is the one crying need. I fully realize that tuberculosis and poverty are not so closely linked in the country as in the city, hence the hospital should be self-supporting in the country. The rural communities have some advantages over the city,—absence of over-crowding, out-door employment, and more robust citizens, all tend to simplify the tuberculosis problem.

The farm colony in close proximity to the sanatorium and hospital is an ideal method of caring for convalescent and arrested cases but is not, in my judgment, an essential in a comprehensive plan.

In this state the majority of all consumptives are treated in their homes by the family physician, consequently this method should be perfected by modifying and adapting the essentials of sanatorium treatment to the treatment of the consumptive in his own home. The essentials necessary in the successful treatment of tuberculosis patients in the home are: 1. An early diagnosis. 2. Sufficient nutritious food to insure perfect nutrition. 3. Pure air, day and night. 4. Systematic regulation of exercise. 5. Strict medical supervision by the attending physician. In closing, let me remind you that "the man behind the gun" in this campaign is the family physician, and that on him largely rests the success of the struggle.

## A PLEA FOR THE EARLY DIAGNOSIS AND EARLY SURGICAL TREATMENT OF CANCER\*

By E. H. BECKMAN, M. D.

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The fact that one of the best known surgeons in America has recently died of metastatic cancer, which had its origin in the mouth, is simply an illustration of the helplessness of the medical profession in curing the disease when it has become disseminated through the body; but that he could die of this disease without surgical treatment shows that the profession is not profiting as it should from the evidence produced by the best surgeons as to the curability of cancer when properly treated surgically in its incipient stages.

Cancer is almost the only disease which is steadily and rapidly increasing among the civilized races. The medical profession with the aid of the press, the national government, and the various antituberculosis societies, has finally succeeded in reducing the mortality from tuberculosis. Cancer, at its present rate of increase, will soon be more fatal than tuberculosis, and yet no great movement has been placed on

foot to bring before the profession or the laity the known facts regarding cancer and its cure.

In England the statistics for 1905 show that cancer is more fatal to women than tuberculosis, there being one hundred deaths per 100,000 from the former disease, to 94 from the latter. The English statistics further show that, while at present more women are affected with cancer than men, the proportion of males having cancer has increased more rapidly since 1850 than females. Omitting carcinomas of the breast and uterus the disease is more common in the male than in the female. The English statistics for 1906 show that 1 in 11 of all men and 1 in 8 of all women 35 years of age and upwards, eventually die of cancer. The statistics for the United States are not as complete as for England. They show that the deaths from malignant disease in 1850 were 9 per 100,000, while in 1900 they had increased to 43, or nearly fivefold in 50 years.

The deaths from cancer alone in 1890 were

\*Read before the Minnesota Academy of Medicine, November 3, 1909.

47 per 100,000, but had increased to 60 per 100,000 in 1900. The deaths from tuberculosis in 1890 were 245 per 100,000, but had decreased to 187 per 100,000 in 1900.

The number of deaths from cancer in Minnesota for the year 1908 was 1,258. This shows when compared with the total mortality-rate, that 1 death in 17 is due to cancer.

While the death-rate in the United States from tuberculosis is still greater than from cancer, it is rapidly decreasing while that from cancer is on the increase. The United States Census Report for 1900 shows that 1 in 29 of the total deaths is due to cancer. These figures show the enormous prevalence and the steady increase of cancer. They are certainly evidence enough to make the subject one of personal consideration to every one.

Bashford, in a recent article, is of the opinion that most of the increase in cancer is apparent rather than real, and is due to more reliable statistics rather than to an actual increase in the disease.

Although hundreds of competent and enthusiastic workers are endeavoring to discover the etiology of cancer, up to the present time its cause is still unknown. The various theories—the microbic, the protozoan, and others—are not proven. We cannot hope then to learn how to cure cancer by a study of our present knowledge of its cause. The most optimistic internist cannot claim a single cure. Serum therapy and immunizing vaccines, which have revolutionized the treatment of many diseases, have been of no help in this disease. The x-ray, which at first promised so much, is now regarded by those most competent to give an opinion, as of little value except in the most superficial cases of skin cancer. The treatment of carcinoma by radium is still in the experimental stage. The pathological study of cancer, while teaching much in regard to the mode of growth and spread of the disease through the body, has aided in the cure only so far as it has been an aid to the development of the surgical treatment.

At the present time surgery is the only branch of medicine that holds out any hope for the cure of cancer. It is of the utmost importance, then, that every member of the medical profession should know just what surgery has accomplished and what can be expected of it in curing this common disease. The profession has before it two duties to perform: (1) to inform itself and (2) to educate the people. Let us study some

of the common forms of cancer, see what percentage of cures surgery gives, and endeavor to learn how the percentage of surgical cures can be increased.

One of the commonest sites of cancer in the female, is the breast. At a meeting of the American Surgical Association, held in May, 1907, a symposium on cancer of the breast showed that the percentage of cures following the radical operation was from 20 to 40 per cent. In cases where the axillary glands were not involved at the time of operation the percentage was increased to 70 and 80 per cent.

One of the most complete reports of recent times is that of Drs. Greenough, Simons, and Barry on operations for cancer of the breast, performed at the Massachusetts General Hospital for ten years, from 1894 to 1904. This report includes 376 cases, which have been traced for an average of eight years following operation. It includes both complete and incomplete operations. The total percentage of cures is 20. The percentage of cures during the last five years covered by the report, when more complete operations were performed, was 26, as compared with 16 per cent during the first five years. One of the conclusions of this report is especially significant, viz., that incomplete operations on early cases yielded better results than extensive operations on cases which were well advanced.

The conclusions to be drawn from the above facts are, that, to obtain more cures, cancer of the breast must be removed by the complete operation and at the earliest possible time.

Eighty per cent of the tumors of the breast are or will eventually become malignant. No member of the medical fraternity has developed a keen enough sense of touch to positively state from palpation that a tumor of the breast is not malignant. These tumors must all be regarded as suspicious until proven benign. A doctor who tells his patient with a growth in the breast that she has nothing but a tumor, and keeps her under observation until the axillary glands are involved and then hurries her to a surgeon, deserves to be censured much more than the one who gets a poor result from reducing a fracture, for in the latter instance it means a useless member, but in the former it means death in 80 per cent of cases.

The laity should know that every tumor in the breast is a pathologic process, that absolutely nothing can be gained by expectant treatment, and that in almost every instance delay lessens the chance of cure. It is better to remove scores



of benign tumors than to let one patient pass the stage in which cure is possible.

Freedom from pain leads many patients with cancer into a sense of security. The public should be taught that cancer is a painless disease, and that pain comes late from adhesions, ulceration, and inflammatory thickening about the tumor. If the above facts were generally known the percentage of surgical cures of cancer of the breast would more than double in the next few years.

Cancer of the uterus, like cancer of the breast, must be operated upon early to save the patient's life. When the disease has spread to adjacent structures the case is almost always hopeless, so far as obtaining a cure is concerned. Women should be taught that a persistent foul vaginal discharge is always suspicious of cancer, and that any flow after the menopause is almost pathognomonic of this disease.

Cancer of the lip is a common form of cancer in males. It invariably starts as a small chronic ulcer which undergoes carcinomatous change. If operated upon before metastasis has occurred in the lymphatics of the neck, by an operation which includes the removal of all the gland-bearing tissue of the anterior triangles of the neck, the prognosis is decidedly favorable. If, however, the lymphatic glands of the neck are involved at the time of operation, the prognosis is decidedly grave. The profession should not recognize a surgeon who treats a cancer of the lip by removing the growth and does not at the same time remove the lymphatics of the neck. He should be classed with the quack who applies paste.

We must educate the public to realize that any ulcer of the lip which does not heal readily under treatment, is almost surely cancer and should be removed at once for microscopical examination. If the examination reveals the presence of carcinomatous change, then the lymphatics of the neck must be removed also.

The pathologists at St. Mary's Hospital have definitely proven that cancer develops upon ulcer of the stomach. Seventy-one per cent of the cancers of the stomach excised at the Mayo clinic show that they have developed upon ulcer. A patient with chronic ulcer of the stomach, then, who does not improve under medical treatment in a reasonable length of time, should be advised to have a surgical consultation on account of the danger of carcinoma developing upon the ulcer. Here, as in cancer of other regions, the patient's only hope of cure is in an early operation.

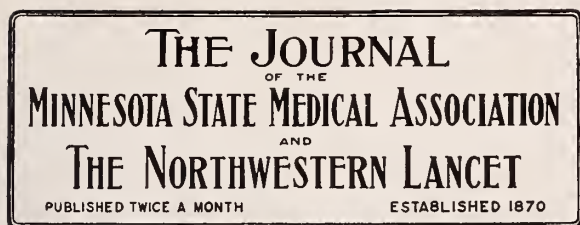
#### SUMMARY

1. Statistics show that cancer is increasing among all civilized races.
2. English statistics show that 1 in 15 of all men and 1 in 9 of all women 35 years of age and upwards, eventually die of cancer.
3. Excluding cancer of the breast and uterus, males are affected more often than females.
4. At the present time surgery is the only branch of medicine that can cure cancer.
5. The earlier a cancer is operated upon the better the chance of cure.
6. The medical profession must diagnose cancer earlier, and insist upon early operation.
7. The public must be taught that cancer is a painless disease, and that every delay in submitting to operation lessens the chance of recovery.

#### DIAGNOSIS AND LOCATION OF APPENDICEAL ABSCESES

Dr. Cassius Rogers, of Chicago, gives his experiences with appendicitis, with fourteen illustrative cases. He gives a resume of the anatomy and development of the appendix. The appendix may occupy a great variety of positions, and may be partially extraperitoneal. In the variety in which the symptoms are severe the process is rapidly suppurative, while when it is slower and less acute it is more liable to be followed by gangrene. If an abscess forms after an omental tumor has formed around the appendix general peritonitis is not apt to follow, since the appendix is walled off from the general peritoneal cavity. The cause may come from within or without; if from without, it is due to adhesions to the surrounding structures; if from within, it may be intestinal disturbances, foreign bodies, gallstones, enteroliths, or other conditions, with or without infection. The acute suppurative form comes on after catarrhal attacks and infection. The treatment of the suppurative variety is always surgical and should be undertaken as soon as the diagnosis has been made. Tuberculous appendicitis is seldom primary; it should be operated upon.—Medical Record.

During and after the healing of fractures of the shaft of the humerus, the forearm and hand should be examined for wrist-drop and other evidences of musculospiral paralysis.—American Journal of Surgery.



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#### SOCIETY DUES

The Secretary of the State Association calls the special attention of the officers of county and district societies to the fact that the dues for the ensuing year will be \$3.00, instead of \$2.00 as in the past, the additional dollar being required for the defense of all members in civil malpractice suits, as provided by vote of the State Association at its last meeting. The provision will be in effect on and after April 1, 1910.

#### THE COMMITTEE OF ONE HUNDRED

A National Health Committee of one hundred scientists, each a specialist in his own department, have been in conference for the past two years, and have recently begun the issuance of a bulletin which gives a brief résumé of the important matters that have come to the committee for consideration. The last bulletin (December) brings out the extract from President Taft's speech at the Georgia-Carolina Fair at Augusta, Georgia, November 8th, in which the President says that he expects to recommend to Congress that there be a union of all of the instrumentalities of the government for the organization of

means of health and the study of disease, and he quotes the experience of army officers in the suppression of yellow fever and malignant malaria: "Without this knowledge, it would have been impossible to build the Panama Canal."

It is very evident that matters pertaining to public health are receiving more consideration from the public press and the popular journals. There is scarcely a magazine which has not at some time devoted a number of its pages to health matters. The subject has been one of great popularity, and has advanced rapidly all over the country. Dr. Woods-Hutchinson has done much to create a popular taste for matters pertaining to popular sanitation. In many of his articles, he has shown the errors of old superstitions to which the people have held for ages. He exhibits many of the popular fallacies concerning advertising health cures, and of some of the faddists who believe in certain routine measures that they apply to every individual. The other articles which have appeared in the popular magazines have called attention to the disgraceful and unhygienic conditions which exist not only in the states, but in the country, and they should be commended for their efforts to instruct the people. For instance, in *The World Of Today*, the article, "Let Us Stop Dying Before We Have To," treats of tuberculosis, typhoid fever, diarrhea, enteritis, and infectious diseases, and their prevention. *Munsey's* has an article on the subject of "Sobriety," in which the advance of the temperance movement has been explained, and the causes that have helped to bring it about. The magazine, *Education*, has an article on "The School Desk and the Health of the Children;" *Van Norden's* magazine for December, on "Hurtful Headache Mixtures;" and many of the daily papers have taken up the subject with great enthusiasm. The *New York Times* recently devoted a full page to Dr. Saleeby's work on Eugenics. (For those unenlightened readers, it may not be out of place to say that Eugenics refers to the science of generation of procreative development, the doctrine of progress of evolution, especially in the human race, their immediate conditions in relation to the sexes. This is quoted from the *Century Dictionary*. It further states: "In the ingenious speculations of Mr. F. Galton, in the delicate domain of Eugenics and in the idiosyncracies of mental imagery . . . are now recognized as a necessary development of the method into which Darwin has cast the thought of the age.")

Rockefeller's gift of one million dollars for

the extermination of the hookworm has been widely discussed, and, in some papers in the South, has been looked upon as an insult, and the editors advise that the gift be repudiated. In all probability, the gift will be absorbed and used for a good purpose. It is estimated that it costs less than one dollar a head to cure this disease on a large scale, and each cured patient can, as a consequence, increase his daily earnings that much. This means that Mr. Rockefeller's investment for the nation will return to the nation seven thousand per cent per annum. With good work done in the tropics and in Cuba, in the extermination of yellow fever and malaria, it would be an unwise measure for the South to decline this generous offer; and if hookworm is responsible for many of the defectives that exist in the South, and they can be restored to activity, it will mean much to the southern states.

The conference which was held in New Haven, Connecticut, in November last, on prevention of infant mortality, was under the auspices of the American Academy of Medicine in co-operation with many organizations, including the Committee of One Hundred on National Health. The chairman of the medical section, Dr. Knox of Johns Hopkins University, read a paper on the influence of alcoholism on infant mortality, which was discussed by Dr. Edward T. Devine of New York, and many other prominent sociologists.

That the health movement is spreading is evidenced by the conference which is to be held in Brussels next summer, the Hygienic Exhibits to be held in Dresden, and the International Congress on Hygiene and Demography which is to be held in Washington in the fall of 1910.

That health measures are to be a part of national politics, is shown by the pledges of both political parties in favor of a new and better health organization. The National Grange has passed strong resolutions favoring these measures, and it will receive the cordial support of nearly one million farmers. And when the country people show an interest in health matters, and the farmer reads his agricultural paper in which these subjects are discussed, he will prove a powerful factor in the advancement of public health in general. It remains now for the doctors to do their share, and if we were better organized, it would be possible for the profession to inaugurate a concerted attack upon all congressmen and senators, expressing their wishes in regard to the adoption of such laws and regulations as will benefit the health of the country. This condition is not an ideal dream,

by any means, and if the movement is once started, and physicians take sufficient interest, they can exercise a powerful influence not only in their own state legislative bodies, but in the national congress.

There is no doubt that the people are awakening to the necessity of better health conditions, and if the laws regulating public health are not carried to extremes, the public will gladly accept advice, and will co-operate in the carrying out of new laws for their own advancement.

### THE UNIVERSITY HOSPITAL

When the temporary buildings that now make up the nucleus of the new University Hospital were ready for occupancy, letters of information with application-blanks were sent to physicians all over the State; but there seems to be a misunderstanding as to the scope of the present hospital. So far, but two buildings are in readiness and equipped for hospital purposes,—one a surgical building with thirty beds, and the other a medical building with about twenty-two beds. At the opening of the college year, attention was again called to the University Hospital and its readiness for occupancy.

During the summer, in order to lessen the expenses, the population of the hospital was reduced to the lowest possible number, and now that physicians are beginning to appreciate the advantages of the University Hospital, all the beds have been filled. The result is that many applications are returned with the explanation that no bed is available. But in the rush of things in the country, doctors do not fully understand why their patients should not be accepted, and in a few instances the application-blanks have been made out, telegrams have been sent to the admitting officer, and the patient has been rushed into the city without knowing that the application may be denied. This has caused some unpleasant comment, and some hard feeling on the part of country physicians; but if they will stop to consider that the new building will not be ready for some months, and that the Hospital Committee is endeavoring to secure more temporary quarters to provide for the overflow, there would be no such feeling. If the applicants for admission will forward their papers, the admitting officer will respond as to whether room is available.

Every medical man who has the interests of the University at heart should visit the temporary quarters of the University Hospital, and see for himself how an institution with a limited number of beds can be maintained and run



in the true hospital spirit. Everything about these buildings is scrupulously clean. Everything, of course, is new in the line of equipment, nurses are plentiful, and attending surgeons and physicians are to be found each day. It is expected that this order of discipline and management will be maintained, and the Committee expects that no loopholes will be open for mismanagement, and that no undesirable conditions will prevail.

The plans for the new building are practically completed, and, as far as the Committee is able to determine, it will be modern in every particular. It has been shown by other hospitals that the best of construction is cheapest in the end. The City Hospital of St. Paul and the City Hospital of Minneapolis show the necessity of thoroughly well built structures,—fire-proof, modern, and built for all time. No criticism has been offered against the City Hospitals in either city as to their seeming magnificence; the buildings are architecturally attractive, and are so constructed that absolute cleanliness is easy to maintain.

The alumni of the University are again urged to co-operate with the Hospital Committees in the education of the legislature and the people in their community, in order that suitable appropriations may be acquired from year to year.

It will not be long before a large hospital will be a prominent feature of the new Campus, but it can be accomplished only by the concerted efforts of all medical men interested in the prosperity of the Medical Department of the University of Minnesota.

#### FILTRATION-PLANT AT EAST GRAND FORKS, MINN.

The Minnesota State Board of Health has undertaken to establish at East Grand Forks, in Minnesota, the supervision and conduct of a filtration-plant for that city. The work has been undertaken with several points in view: first, to study the operation of such a filtration-plant for the benefit of its locality, and, incidentally, for the benefit of other towns or states; second, in order to instruct this municipality in the scientific management of a water system; and, thirdly, to prove or disprove the value of such plants.

The city of East Grand Forks has cheerfully undertaken to co-operate with the State Board of Health, and their consulting engineer, Mr. Wolff, has accepted the offer of further assistance, and the Roberts' Filter Manufacturing

Company has agreed to any changes that may be made in the plant and are willing to do all they can to install a capable filter service.

The city of East Grand Forks, through its municipal officers, has been in constant communication with Dr. Bracken, the executive officer of the State Board of Health, and it seems very probable that the whole organization is looking forward to the accomplishment of a system that will be of great benefit to this and other communities.

Mr. Whittaker, the chemist employed by the State Board, began his work on November 22d, and will be occupied, more or less continuously, for the next two months in making chemical analyses of the water. Those reports will be transmitted to the director of the laboratories, and full records will be kept of all analytic work in order that they may form a basis for future investigations.

The city of East Grand Forks guarantees the payment of all expenses incurred by the State Board of Health, or under its express direction, for materials furnished, labor performed, and alterations made in the filter, filter connections or coagulating system, or the settling basins necessary to properly test the working of the filter, and to effect the work of the city filter in accordance with the state guarantee. Other than such expenses of the State Board are to be paid by the city. The amount of such expenses, however, is not to exceed the sum of \$2,000. The basis of this resolution was unanimously adopted by the council, and approved by the mayor. This does not mean the actual expenditure of \$2,000 by the State Board of Health: it simply means that the State Board of Health is willing to furnish the chemist and such assistants as he may require. This, of course, includes traveling expenses and the visits of physicians who are directly concerned in the completion of the project.

Professor Bass, the engineer of the State Board of Health, will be in constant communication with Mr. Whittaker, and will see that the work, from the engineering side, is properly carried out.

The experiment, which is already under way in East Grand Forks, is a very suggestive one, and if the expectations of the City and State Board are realized, will have great weight in other parts of the State in determining what may be done by the filtration system. The experiment brings out the following points for consideration:

1. The employment of two gauges which are

a necessary guide to the proper operation of the filter.

2. The possible need of changing the line of flow.

3. The possible need of changing the system of demonstrating chemicals.

4. The possible need of more walls removed from the settling basin.

5. The possible need of change in the settling chambers.

6. The possible need of change of sand in the filters.

7. The possible need of apparatus for other chemical treatment.

Some of these points, of course, would rest with the Filter Company, while others are engineering problems that will have to be studied out. It is clearly understood that all of this work is to be carried out under the direction of the State Board of Health, and it might be remarked, in passing, that it has not been necessary to call in experts from outside the state to inaugurate this important change in the water system of East Grand Forks.

The city of Minneapolis evidently feels that experts from abroad are necessary to guide the officials in the selection of its water supply. It seems hardly fair that Minnesota and her experts should be ignored when the water-ways and water systems of Minnesota cities are to be a matter of study. We have in our own state a number of men who are qualified in every way to advise and carry out any water system which any city in Minnesota desires. The physical conditions are so well known to our local scientists, and so little known by men from other sections of the country that the man at home should be at least called into consultation by our local health authorities. The investigation of Mille Lacs as a possible water supply for Minneapolis has been carried on in part by the local health commissioner and his associate, Dr. J. Frank Corbett, but the reports are sent to another state for advice and possible decision. It would create a better feeling if our state experts could be put in immediate charge of such work, and if consultants were needed, they might be called in from their sections of the country.

The haphazard way in which our water supplies are studied, and the long session of the water commission, seem to have been of comparatively little value, unless it be from a purely statistical point of view.

As long as these important health measures are left to local politicians, very little good work

can be realized. Eventually, the State Board of Health will have to take all of these experiments under advisement. It should be the board of inquiry, or consultant and advisory board, and the determining board.

When the National Board of Health is established, the State Board of Health will be in a better position to dictate its conclusions. In the meantime the experiment at East Grand Forks is being carried out with accuracy and precision, and may be the entering wedge for larger and better work in other parts of the state.

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## BOOK NOTICES

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DISEASES OF THE BLADDER, by Follen Cabot. Cloth; pp. 224, 1909. E. B. Treat & Co., New York.

The chief value of this little book lies in its thoroughly modern treatment of the diagnosis of the diseases of the urinary bladder. All accepted means of diagnosis are fully considered, including a specially complete treatment of the subject of cystoscopy.

The book conforms closely to the lectures as given by its author in his post-graduate teaching in New York, and is, consequently, well fitted to the needs of the general practitioner.

Special chapters are given to history-taking, and to methods of examination, as well as to treatment.

HUMAN PHYSIOLOGY, an Elementary Text-Book of Anatomy, Physiology and Hygiene. By John W. Ritchie. Cloth; pp. 362, 1909. World Book Company, Yonkers, N. Y.

In Human Physiology the author has produced an admirable text-book for use in public schools. Both anatomy and physiology are presented briefly, but clearly, and also, which is by no means common in small text-books, accurately; and on this basis, the subject of hygiene is taught with unusual detail.

The book is thoroughly modern, and considerable attention is given to bacteria and communicable diseases, including the means by which they spread, and the methods whereby their spread can be prevented. It is also a pleasure to state that the book is as admirable in a literary, as in a scientific and practical, way.

THE PRINCIPLES OF BACTERIOLOGY. By A. C. Abbott, M. D. Cloth; pp. 633, 1909. Lea & Febiger, Philadelphia and New York.

Abbott's well-known book on bacteriology has now reached its eighth edition, and the reason for its continued popularity through eighteen

years seems to be found in the fact that it is kept strictly up to date. In this latest edition, considerable attention has been given to recent work on protective vaccination, and the preparation of antisera, as well as the newer views on infection, immunity, and phagocytosis.

The book is written for the student and practitioner, and that it well fulfills its mission is evidenced by its popularity. In addition to the portion dealing directly with bacteriology, valuable suggestions are given as to post-mortem examinations and the methods for securing bacteriologic material.

**BACTERIAL FOOD POISONING.** By Dr. A. Dieudonne. Translated by Dr. Charles F. Bolduan. Cloth; pp. 128, 1909. Price, \$1.00. E. B. Treat & Co., New York.

At the present time, when there is such a widespread interest in matters pertaining to pure food, Dieudonne's book affords both profitable and interesting reading. Though a very recent publication it has already attracted much attention and has been very favorably commented on. The following bacterial food poisons are taken up, and each in turn is thoroughly described: meat poisoning, fish and shell fish poisoning, poisoning through cheese, ice cream, puddings, potatoes, and canned goods. Metallic poisoning in relation to bacterial contamination is also briefly described. Under each heading there is given an historical discussion of the subject, followed by the etiology, bacteriology, the clinical types of the disease, the diagnosis, the prophylaxis, and treatment.

The book closes with an excellent bibliography. From every standpoint, it is to be highly commended.

## REPORTS OF SOCIETIES

### ANNUAL DUES.

As many societies hold their annual meetings in December and January, the attention of officers is called to the increase in dues, made necessary by the provision of the State Association for the defense of members against whom civil cases are brought, or threatened, for malpractice. The cost for this insurance is \$1.00 per member, making the annual dues \$3.00, instead of \$2.00, and every member must pay the former amount.

### MINNESOTA ACADEMY OF MEDICINE

The Academy met at the Minnesota Club, St. Paul, on Wednesday, December 1st. Dinner

was served, after which the meeting was called to order at 8:30. The usual program was omitted, and Dr. Archibald Church, Chicago, guest of honor for the evening, delivered an address upon "Mind Cures in General and the Emmanuel in Particular."

There were present forty-seven members and six guests.

ARTHUR W. DUNNING, M. D., Secretary.

### AITKIN COUNTY SOCIETY

The Society met at Aitkin on Oct. 18th.

The report of the delegate on proceedings of the State meeting, and the report of Dr. Kelly on the Sanitary Conference, were received.

Officers were elected as follows: President, Dr. C. Graves, Aitkin; vice-president, Dr. B. W. Kelly, Aitkin; secretary, Dr. J. W. George, Aitkin. Dr. J. J. Ratcliffe, of Aitkin, late of Big Falls, Minn., and Dr. G. A. Magnussen, Aitkin, late of Henning, Minn., were elected to membership.

J. W. GEORGE, M. D., Secretary.

### BLUE EARTH COUNTY SOCIETY

The Society met at Mankato, Nov. 29th, with 13 members present.

Papers were read as follows: "Empyema: History of a Case," by F. J. Bomberger, of Mapleton; and "Vascular Surgery," by Geo. R. Curran, of Mankato.

A post-graduate study class was organized on Nov. 26th, to meet every Thursday from one to two p. m. to follow the outline supplied by the A. M. A. for the year. Fifteen members present Nov. 26th and fourteen on Dec. 2d. We shall endeavor to get the county members interested. The Mankato physicians have secured a large room for the permanent home of the Study Club and the Blue Earth County Society. The room is in the National Citizens Bank building, in which there are nine physicians' offices already.

T. C. KELLY, M. D., Secretary.

### LYON-LINCOLN COUNTY SOCIETY

The Society met at Marshall, on Nov. 9th, with nine members present. Papers were read as follows: "Treatment of Pleurisy," by Dr. E. T. Sanderson; "Toxic Materials in the Blood," by Dr. A. D. Hard.

A report of meeting of the House of Delegates at Winona, was made by Dr. C. E. Persons. It was voted to make the next November meeting a public one, and to discuss the relation of members of the medical profession to matters pertaining to public health.



Dr. G. L. Jacquot was elected a member, and Dr. L. F. Woodworth was given a transfer.

H. M. WORKMAN, M. D., Secretary.

## NEWS ITEMS

Dr. C. E. Hamel has moved from Duluth to McIntosh.

Dr. J. Trumbull has moved from McIntosh to Karlstad.

Dr. G. P. Hyndmann, of Minot, N. D., died last month.

The Winona County Society will take up a course of special study.

Dr. A. B. Cole has decided to remain in Fergus Falls and not go to California.

Dr. W. A. Lumley, of Renville, has sold his practice to Dr. L. F. Francis, of Delhi.

Drs. Peake & Peake, of Valley City, N. D., will move to Fargo, N. D., on Jan. 1st.

Dr. S. P. Seaberg, of Hanska, has sold his practice to Dr. P. K. Dahl, of North Dakota.

Dr. Richard O. Julian has given up practice at Mountain Lake and may locate in Mankato.

Dr. D. G. Cowing, who recently sold his practice at Ashby to Dr. Randall, will locate in Montana.

Dr. R. G. Olson, of Nicollet, and Miss Agnes R. Engstrand, of Providence, were married last week.

Dr. A. H. Kahala, who has been practicing at Crookston for the past year, has moved to Boise City, Idaho.

Dr. Walter Christensen, of Lidgerwood, N. D., was married last month to Miss Merrie Novius, of the same place.

Dr. O. Hallberg, who has practiced in Chicago and Isanti counties for over thirty years, has located in Lindstrom.

Dr. J. J. Janss, of Welcome, has sold his practice to Dr. Geo. W. Mengerson, of Chisago, and will locate in California.

Dr. Erasmus D. Leavitt, one of the first men to practice medicine in Montana, died in Butte on Dec. 4th at the age of 76.

Dr. W. L. Knights, a Rush graduate, who has been studying abroad, will become associated with Dr. L. M. Boyd, of Alexandria.

Dr. Wilson Randolph, of Crookston, has given up practice in that city and after doing post-graduate work will probably locate in Michigan.

Dr. Geo. K. Hagaman, of Anoka, was called

back from Vienna, where he had gone for special work, by burning of his house, which was supposed to be of incendiary origin.

The Northwestern local newspapers have given a great deal of attention to the meetings held to hear Dr. McCormack speak. Almost his entire address has been published by some papers.

Dr. Agnes Hobart, a graduate of the Iowa State University, has located in Wells, and become associated with Dr. Holm. Dr. Hobart has been doing post-graduate work in the Chicago hospitals in eye, ear, nose, and throat work.

The Interurban (Duluth and Superior) Academy of Medicine elected the following officers at its annual meeting, held last month: President, Dr. C. H. Mason, of Superior; vice-president, Dr. David Graham, of Duluth; secretary-treasurer, Dr. Thos. J. O'Leary, of Superior. Twenty-three physicians attended the annual banquet.

### PRACTICE FOR SALE

A practice in a good Idaho town is for sale cheap; pretty place to live in; collections cash. Write or call on Dr. L. N. Klove, 1502 20th ave. N., Minneapolis. T. S. Phone, 13492.

### POSITION IN OFFICE WANTED

A woman who has had experience desires a position in a physician's office. She will make herself useful in every possible way, and strive earnestly to do her work well. Address A. M., care of this office.

### FOR SALE

One of the best practices in a Minnesota town of 500 people for sale at a bargain. No competition. Will take doctor in partnership for the winter months in order to introduce him thoroughly. It will take \$2,500 to make the deal—part cash. Price includes complete up-to-date office outfit worth \$1,500, and location with introduction. Chance to earn part of it while getting the introduction. Address D. W., care of this office.

### OFFICES FOR RENT AND BOOKS AND INSTRUMENTS FOR SALE

A well-furnished suite of offices in a central location in Minneapolis is offered for rent to a physician or dentist for three or four months during absence of the owner (a physician), and probably permanent arrangements can be made for an office and the physician's practice.

The following instruments are offered for sale: a set of 32 eye instruments; new obstetric forceps and bag; miscellaneous surgical instruments; physician's chair; medical books; etc. Address W. M., care of this office.

*For Sale.*—Drug store (snaps) with and without practice. Also drug store positions anywhere desired in U. S. or Canada. F. V. Kniest, R. P., Omaha, Neb.

*Doctor,* if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797. Postgraduate Dep't., Tulane Med. College.















